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ANGINA PECTORIS

CLINICAL EXPERIENCE WITH TWO HUNDRED CASES

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This paper is based on an experience with about 250 cases of angina pectoris, seen for the most part in office and consultation practice. The records of 200 were complete and accurate enough to be the basis for a statistical study which has been made by Dr. Nuzum. The histories of a few cases under the care of other members of the medical staff of the Presbyterian Hospital, Chicago, and the necropsy records of twelve cases, furnished by Dr. E. R. LeCount, have been laid under contribution and incorporated in the statistical study. No cases of so-called false, mock or pseudo-angina are included. Only such as were believed at the time to be dependent on an organic cardiac or aortic lesion have been considered.

SPECIAL CLINICAL FEATURES

Without discussing the familiar clinical features of angina, it may not be amiss to refer to a few facts that have seemed worthy of mention because of their unusual character or because they have been forcibly impressed on us.

By all odds the most frequent exciting cause has been walking—walking rapidly, up hill or against a head wind. But we have been impressed by the number of patients who voluntarily add as a corollary that the attacks are prone to appear when the patients walked soon after a heavy meal. This has often on analysis seemed the explanation for the occurrence of the seizures in the early evening, that is, after the heavy dinner. The patient's attention is also attracted to the stomach by the belching that often accompanies the attack or immediately precedes its termination.

A fit of anger is one of our classical textbook causes. In our experience it has been rare. After waiting more than twenty-five years for such a history, we obtained it for the first time—a typical John Hunter case—a few months ago.

We have known one patient who by choice would lie prone during every attack. One got on her hands and knees. All the others have assumed the sitting or standing posture. Nearly all have remained quiet, immobile. Some have merely slowed up in their rate of walking. One man insisted that he continued walking, "walked it off." This fact, coupled with his insistence that the constriction in the chest was not a pain, just a viselike tightness, made us hesitate somewhat as to diagnosis. But it was evidently angina, for he died a few months later, in such a seizure, before his physician reached the house in response to an emergency call. The sense of constriction without pain occurring after the ordinary exciting causes of angina is always highly suggestive.

We have been interested in four patients with high grade anemia who described perfectly typical anginal attacks on walking—constriction, pain, radiation, erect posture, immobility. One man in the terminal stages of pernicious anemia died in an anginal seizure. Another with a marked anemia of secondary type with neoplasm in the abdomen improved under digitalis so far as the cardiac manifestations were concerned. A third died of his metastatic carcinomas appearing after the amputation of the penis for the primary tumor. A fourth was lost sight of; his severe anemia was of doubtful origin, suspiciously like pernicious anemia. To what extent the anemia was a contributing or causative factor in these four cases can only be conjectured; or perhaps the association was purely accidental. In none was there a necropsy. One may surmise that blood of poor quality going through somewhat narrowed coronaries might favor the development on slight provocation of an anginal spell, that is, if one accepts the coronary — intermittent claudication — origin of the pain. We have thought of the possibility of a tumor's being so located as to cause coronary obstruction or possibly involve the wall of the beginning aorta. But in two of these cases there was no reason to suspect tumor anywhere in the body. Necropsies in cases of this type might be illuminating.

A fact that has struck us as remarkable is the comparative infrequency with which a patient is unnerved by these attacks, even though he knows their true and serious nature. During the seizure he may have the angor animi, may realize that he is face to face with death. But generally, even though the attacks may be severe and frequent, even several in a day, the man takes up his routine of business, and while not forgetful of caution is yet not a nervous wreck or timidly overcautious. Very often he is strangely untaught by his horrific experience to avoid the repetition of acts that almost surely bring on another paroxysm of suffering. Yet occasionally one sees a patient who is in a state of constant terror, with shattered nerves. In three women there were marked neurotic, almost hysterical, manifestations, especially after the attacks, so that the spells were by some regarded as purely neurotic or pseudo-angina; and one had grown dependent on morphin. The latter patient died suddenly in an attack. Another who became hysterical after a spell, and who was all the time self-centered and highly

neurotic, during the seizure was immobile and of ashy gray color; she died in a seizure. The third one, who assumed the hand and knee position, admitted that she was a nervous wreck and was made foolishly hysterical by the spell, but insisted on the severity and the genuineness of the pain. And considering the organic changes in her heart and from a careful study of her case, we believe she had the true complex of symptoms. The outcome in her case we do not know.

ANGINA DUE TO CORONARY OBSTRUCTION

A few years ago our attention was acutely attracted to coronary thrombosis in connection with anginal pains.[1] A case of this kind with necropsy taught us that even large coronary branches might be obstructed and the patient not die immediately but live for many hours, or several days. Some probably recover. Since then we have seen several such cases in which symptoms have been clearly enough marked so that one might venture to make a diagnosis of angina due to coronary obstruction.

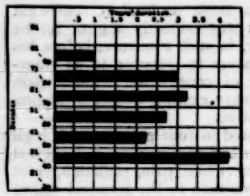

Chart 1.—Average duration of angina in fifty patients that died.

A large proportion of patients with embolic or thrombotic obstruction of a large branch of a coronary artery die suddenly, or at least soon after the accident. The insult to the myocardium is more than it can stand, especially as the coronaries are not richly anastomotic. Yet anastomoses of sufficient size to functionate have been shown by dissections, and by injections and stereoscopic roentgenograms. Experimentally also, in dogs particularly, it has been shown by many that, contrary to Cohnheim's earlier teaching, branches of large size like the descending ramus may be ligated with the recovery of the animal, the fibrosis resulting from the scarring of the anemic infarct not producing injury sufficient to cause death. And pathologists have many times found evidence of long standing obstructions. So the statements made by clinicians that occasionally a coronary obstruction may cause an anginal seizure, yet the patient not die immediately or very soon, seems warranted by anatomic, pathologic and experimental investigations, as well as by occasional cases with necropsy.

The patients that we have seen with this accident have fallen into two groups, one in which the coronary obstruction gave rise to the first and only attack of pain, and the other in which the patients had previously had anginal seizures.

The two cases we have had with necropsy belonged in the first group.

Case 1.—A man, aged 55, was seized with severe pain low in the chest and epigastrium. He vomited. The physician, believing, as did the patient, that the attack was of gastric origin, washed out the stomach; but relief came only with morphin. The man lived fifty-two hours. He was conscious to the last. His pulse from the first was rapid and very weak, the heart tones nearly inaudible. An acute emphysema with many moist râles developed. The temperature never was above 99.2. The left ramus descendens was found plugged by a thrombus at a narrow spot where there was a small pathologic mural roughening and thickening.

Case 2.—A man, aged 62, while walking on the board walk at Atlantic City, was seized with a terribly severe pain in the lower precordia. He was helped to the hotel, but refused to call a physician while in Atlantic City or for the next two days while in New York for, as he said, he knew from the severity of the initial pain, the great weakness and difficult breathing, that he would be ordered to a hospital, and he wished to get to his home in Chicago for his illness and, as he feared, his death. He lived over two weeks from the onset of the attack. His heart when he reached Chicago was dilated, weak and somewhat rapid. There were dyspnea, cyanosis and marked edema of the legs, and albuminuria. Death was as in ordinary cardiac failure. Necropsy revealed recent plugging by a thrombus of the descending branch of the left coronary with softening of the heart muscle at the left apex and the lower interventricular septum.

In this, as in the other case cited, the aorta was remarkably free from evidence of sclerotic change. No other lesions were found than the isolated patches of sclerosis in the coronary. It happened also that in each case the patient had only a short time before been carefully examined by competent physicians and had been pronounced in good health as to heart, blood pressure, urine, etc. It was, in other words, an acute accident. In most of the other cases in which we have ventured this diagnosis, there have been preceding cardiac symptoms, generally frank angina pectoris. The attack that has been regarded as thrombotic has been of unusual severity, often acompanied by vomiting and frequently followed by signs of shock or collapse entirely different from the phenomena following the attacks of angina from which the patient had previously suffered. The pulse has generally been rapid, occasionally slow, and often remarkably feeble and compressible. Blood pressure is low. Dyspnea and cyanosis have varied in degree, in some cases being very distressing. The heart tones have been feeble; occasionally a murmur as from dilation or imperfectly functioning mitral valve has been heard. In two we have made out in a day or two the pericardial friction over the area of softened myocardium. The lungs have at times ballooned up in a remarkable way—the acute emphysema of von Basch and others. Râles may be numerous, as in acute edema of the lungs. Albumin has been present in traces or, as in two patients that lived several days and in whom marked edema of the lower part of the body appeared, the amount of albumin was large. In one patient living three months after the accident, the electrocardiogram is distinctly abnormal and resembles those produced in dogs by the ligation of the descending ramus of the left coronary artery.[2] In another whom we saw in our office two days before his death, the electrocardiogram showed numerous extrasystoles of three different types seeming to come from three different points of origin. This was about two months

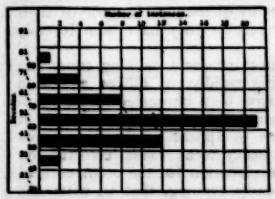

Chart 2.—Age at which death occurred in fifty instances.

1. Herrick, James B.: Clinical Features of Sudden Obstruction of the Coronary Arteries, The Journal A. M. A., Dec. 7, 1912, p. 2015.

2. Since this article was written this patient has died, the necropsy showing the coronary thrombosis. (J. B. H.)

from the time of the seizure that we regarded as due to coronary obstruction. The pain in nearly all of these patients has been lower in the chest than in ordinary angina. Several have described it as epigastric as well as beneath the lower sternum. In only a few has it radiated to the neck or arms. In neither of the two cases with necropsies was there any radiation. The resemblance to a subphrenic accident—perforated gastric ulcer or gallbladder, acute pancreatitis, etc.—may be very striking when coupled with vomiting, collapse, etc.

PROGNOSIS

A few words as to prognosis and treatment. Angina pectoris is still a most formidable disease. Real recovery is certainly very rare. Patients may, however, live many years, even twenty, as did John Hunter. On the contrary, the first attack may be fatal. Of this series the average duration of the disease in fifty whose deaths are reported was nearly three years from the onset of symptoms (Chart 1). One patient was living after seven years, having very few attacks. Of these fifty, 44 per cent. died between the ages of 50 and 60, and 82 per cent. between 40 and 70 years (Chart 2). This corresponds with the incidence of the condition. Of 200 patients the onset was between 51 and 60 years in 42 per cent.; between 41 and 50 in 16 per cent; between 61 and 70 in 24 per cent.; between 41 and 70 in 82 per cent. (Chart 3). We know of no way to foretell how long a man with angina may live. Rapidly recurring seizures, signs of cardiac failure and complications will naturally make the prognosis grave. Experience teaches us the importance of communicating the knowledge of the serious nature of the condition without delay to the immediate friends, both to prepare them for possible fatalities in the immediate future as well as for one's own protection. We once had a patient with angina drop dead thirty minutes after leaving our office. No friend had been with him, and none had been told our opinion. Three died within two days after an office consultation. One man whose illness the class and we had worked out as angina died in the clinic before the students within two minutes of the onset of a terrible pain in his heart region. He had had many typical anginal seizures, this dramatic final one being due, as shown by necropsy, to a rupture of the aorta into the pericardial sac.

TREATMENT

The first case of angina pectoris that we ever saw was during the internship of one of us (J. B. H.) in the Cook County Hospital, Chicago. The effect of amyl nitrite was marvelously helpful. It took many years of trial, with many disappointments, to drive out the notion—so firmly had it been fixed in mind by this experience and by the spell of Lauder Brunton's writings—that nitrites were practically specific in relieving the phenomena of an attack. But sooner or later one learns that while some attacks may be aborted or shortened by the nitrites or nitroglycerin, others do not respond in the least. But it should always be tried. Morphin is, of course, valuable for the pain. The other remedies that seem to have real value are the iodids and digitalis. Surely in some instances the long continued use of the iodid lessens the frequency and severity of the attack even in the nonsyphilitic.

Romberg has laid especial stress on digitalis in angina. This seems to us just. One may speculate as to how this result is brought about; perhaps it is due to an improvement in coronary circulation. But certain it is that under its use, even though the blood pressure may be high, some patients with angina show distinct improvement.

Three weeks ago a woman came to see us for the second time, chiefly to report her improvement. She still had the large heart, the high blood pressure, and the murmurs due to sclerosed valves and aorta, and she still had typical attacks if she tried to walk too fast or to do too much. Iodid and digitalis had, we are sure, helped her; but we are also sure she was right when she said that the greatest service we had rendered her was that we had told her how to live, how to eat, to sleep, to walk, and how not to try to manage all the social affairs in her little home town. She had had three years of relative comfort. Often our greatest service to the patient with angina is to teach the proper mode of life.

ORIGIN OF PAIN

How the exact nature and the origin of the pain in angina are to be settled it is difficult to see, as the problem lends itself poorly to experiment on the lower animals. Anatomic changes in man are not so uniformly localized as to permit of general translation in terms of clinical symptoms. Occasionally, however,

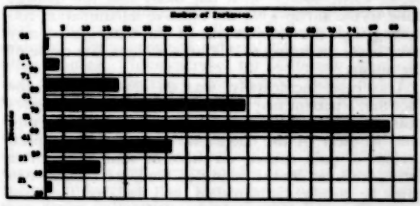

Chart 3.—Age at onset.

the clinical history and the necropsy findings are so clearcut and so evidently correlated as to enable one to reach some fairly definite conclusions.

Thus the necropsies in the two cases of coronary thrombosis already cited showed as the only lesion a thrombus in the descending branch of the left coronary artery. The pain in these two cases was severe; it was substernal, but it did not radiate. The aorta in each case was unusually smooth and free from all signs of disease. One must conclude that the anginal pain in some cases may be of coronary origin. Even Allbutt reluctantly admits this. The location and radiation of the pain will presumably differ, depending on the artery or branch obstructed. Allbutt's view that the origin of the pain in the vast majority of cases of angina pectoris is in the aorta has seemed to us not only well argued but also well supported by many observations. Certainly the more attention is paid to the beginning of the aorta in these cases, the oftener is there found sign of disease. Three cases that we have seen have seemed to us to argue for the view that at least in some instances the pain is aortic. In the man who died in the clinic from a ruptured aorta, there had been a dissecting aneurysm, and many attacks of angina on exertion with arm radiation. The coronaries and myocardium were remarkably clear of disease. The aorta for several inches above the semi-

lunar valves was deformed by atheromatous lesions. The man was a syphilitic.

A man of about 40 once consulted us for typical anginal pains of moderate severity brought on by walking. A soft systolic blow over the beginning aorta made an aortitis highly probable. No heart change could be made out. After eight years of Christian Science treatment he came back to us with large heart, typical aortic leak, and broad aorta. During all these years he had had frequent anginal attacks. He died suddenly in an attack a few weeks later. A case like this is not proof of the aortitic origin of the pain. But the history made us feel that such was the case.

A man of about 45, nonsyphilitic and with an entire absence of cardiac symptoms, while lifting a heavy sack with all his might, suffered from an excruciating pain in his heart region. He dropped the bag and staggered to a seat nearly fainting, short of breath, almost in collapse. From that time he suffered from dyspnea on exertion, and was told by physicians that he had a valvular disease; he soon began to have pain on walking which was constricting, and caused him to stop; it radiated to the neck and left arm. When we saw him eight or nine months later he had a well marked aortic leak with very large left heart. His anginal attacks were typical. Here was a case in which one might safely say there had been a rupture of an aortic valve. Is it not likely that the damage done to the aortic wall, the reactive inflammation following with the involvement of the outer coats, may have been, according to Allbutt's notions, the cause of the angina?

This case, incidentally, was an illustration of the fact that a patient may have angina with other diseases causing pain near the heart. This man had had symptoms of ulcer of the duodenum for ten years, typical periods of pain coming on three or four hours after eating, relieved by the taking of food, etc. These two pains he clearly distinguished, and declared they had no similarity. Becoming discouraged at the poor results of dietetic and rest treatment of his ulcer, he went to a surgeon, who started to operate for the ulcer which was found; but the man died on the table before the operation had been completed.

One Mayor's View of Health Conservation.—After discussing the health question with the present health officials and many others interested in the work since assuming the duties of mayor, I have come to the conclusion that agencies established for the conservation of health have probably the most important work on earth to perform. To prevent sickness and to cooperate with other forces employed in preventing the causes of sickness, such as public and private charities and all bodies engaged in the advancement of sanitation, is a function of government that cannot be sidestepped. Healing the sick is an easy problem, but to get to the root of the evil and to eradicate the cause of illness seems to be the difficult problem. A survey would seem to indicate that the efficiency of the health department in Newark can be increased tenfold if not all bound up with red tape and politics, and if all of the departments in the city government that should cooperate with the health department would be compelled to do so. I congratulate the present health department officials and employees who have promptly taken up the fuel, food and tuberculosis questions and have obtained immediate results beneficial to the people generally. The disposition and ability seem to be there. All that is needed now is cooperation. As mayor, I intend to take a very deep interest in the health question, and to keep in close touch with the health department and all its activities.—C. P. Gillen, Mayor of Newark, N. J.

THE ADMINISTRATION OF EPINEPHRIN BY INTRASPINAL INJECTIONS

IN ACUTE OR SUBCHRONIC CASES ACCOMPANIED BY A LOW BLOOD PRESSURE *

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A very low blood pressure accompanies dangerous states of diseases from any source. We need not discuss the problem of whether low blood pressure is an essential characteristic of the condition termed shock—a question which is just at present being discussed extensively. Many physicians agree that any means capable of raising the blood pressure stimulates hope for the recovery of the patient.

The use of epinephrin has been variously suggested even by writers who do not fully believe that the lowering of blood pressure is an essential factor in shock. Epinephrin is usually recommended to be given intravenously, though all investigators are familiar with the fact that the duration of rise of blood pressure produced by such an injection is very short, sometimes not longer than six or seven minutes. Worse yet, the rise terminates in a fall of the blood pressure lasting for some time. At various times we have studied the effect of epinephrin on blood pressure when administered by subcutaneous, intramuscular or intraspinal injection. As far as animals are concerned, the effect of subcutaneous injection is very small, though it may last longer than that of intravenous and intramuscular methods of administration.

Five years ago we published our results of intraspinal injections. Satisfactory results can be obtained only in monkeys. While the rise of blood pressure under such circumstances is comparatively slow, the pressure may reach the height of that produced by intravenous injection and even go a little higher. But the most important result was the difference in the duration of the effect. When epinephrin is administered intravenously, the effect passes off completely in ten minutes at most. When it is administered intraspinally, even after an hour, the blood pressure may be perceptibly higher than the original pressure, even if the normal blood pressure was not lower than 120 mm. of mercury. While the results varied in certain details with the animals, they hold good in a general way for all the monkeys we experimented on. Through the kindness of Dr. Simon Flexner we were recently in a position to test this question again in three monkeys. The general outcome coincided with our previous results. We therefore suggest that, under present war conditions, epinephrin be administered intraspinally in cases of low blood pressure. The initial dose should be not less than 3 c.c. of a 1:1,000 solution. In the poliomyelitis epidemic of 1916, some physicians gave small children doses as high as 6 c.c.[1] We do not wish to discuss the favorable result of this treatment on poliomyelitis. We merely wish to say that, when epinephrin was given in doses no smaller than 2 c.c. every few hours, there was not a single case in which any harmful results were observed. In all cases in which it was looked for, there was a rise of blood pressure.

* From the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research.

1. Haas, S. V.: Med. Rec., New York, 1916, 90, 425.

In human beings the injection of epinephrin in the lumbar region is more easily executed and the results are more uniform and reliable than in monkeys.

In our experiments with intrapharyngeal insufflation, we have learned that a considerable pressure on the abdomen, exerted by means of a board and bandages, contributes a definite increase to the blood pressure.

We would advise that, thirty or forty minutes after the intraspinal injection of epinephrin, a subcutaneous injection of that solution should be added. We are aware that none of this advice will prove lifesaving in all dangerous cases. But physicians should employ any remedy that can assist the struggle for life by 40, 30 or even only 20 per cent. In offering this advice, we are not concerned so much with the scientific problem as with the problem which should be the main interest of the practicing physician, namely, to employ any remedy that may contribute to the saving of human life.

CUTANEOUS MEDICINE IN ITS RELATIONSHIP TO INDUSTRIAL ACCIDENT AND HEALTH INSURANCE

BASED ON CALIFORNIA EXPERIENCE

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I have had numerous examples of vocational dermatoses under observation in my private practice and also through the courtesy of the California State Industrial Accident Commission. The observations here reported are based partly on this experience.

Many dermatoses are due principally to external influences and are aggravated and perpetuated largely by external causes. The occupation and habits of the individual naturally have an important influence on the course of these eruptions. It must not, however, be forgotten that there are often underlying conditions rendering the skin more sensitive and thus more easily injured.

Cutaneous medicine embraces such a wide field, including as it does syphilis and diseases of the mucous membranes, that a brief paper could not possibly cover the subject.

SYPHILIS

In the case of syphilis, which is involved to a great extent in the diagnosis, prognosis and treatment of many dermatoses, it will be seen that the field is too broad for brief discussion. In the first place, syphilis impairs the efficiency of the individual as a worker very early, so affecting his physical and mental condition as to make him careless and more than ordinarily liable to accidents. Then there are those persons who develop cerebrospinal syphilis, the first indication of which may be seen in some error of judgment or erratic action on the part of the worker, causing perhaps serious accidents. The well known effects of syphilis in producing aneurysm, which is so insidious in its development that only roentgenographic examination may disclose its presence, make it a factor in still another way. As for the influence of syphilis in delaying healing, opinions differ; but it will be agreed that when it causes anemia or any other weakened state, the reparative forces of the tissues are impaired. It has been my observation that untreated syphilis has an unfavorable influence on the course of various cutaneous eruptions. Syphilis often seems to cause an abnormal activity of the sebaceous gland system with a resulting seborrhea and its various complications, such as seborrheic dermatitis.

The extreme importance of being able to differentiate various cutaneous eruptions, which claimants might pretend were due to their work, from those of syphilis, should be evident to every one. Even with expert knowledge of all kinds of eruptions, it is not always easy. While the Wassermann test is of great value when unqualifiedly positive, it is often not enough to decide the question, particularly when, as in the case of late syphilis, the reaction is frankly negative. In doubtful cases, however, a provocative Wassermann may clarify the situation.

INCREASED VULNERABILITY DUE TO SYSTEMIC CONDITIONS

In considering the skin, we must not forget that it is an important organ intimately connected with and influenced by all the various bodily functions, among which the digestive system plays an extremely important part. Various disorders of the nervous system and the internal gland system are often the cause of an increased susceptibility of the skin to injury. Increased vulnerability of the skin plays an important part in the production of all so-called vocational dermatoses. This increased vulnerability may be due to other causes. Idiosyncrasy for different chemical and mineral substances and certain foods may be mentioned in this condition. Probably the commonest cause of cutaneous sensitiveness is seen in the derangements of the alimentary canal. Anaphylaxis also increases cutaneous irritability. In addition to careless habits and errors in diet, a great variety of factors influencing the sympathetic nervous system may cause indigestion. Unfavorable home environment and bad habits, particularly alcoholism and other drug habits, have their well known influences. Various toxins in the blood resulting from malassimilation or some form of chronic intoxication may increase the sensitiveness of the skin. Reflex action from many causes may disturb the nervous mechanism of the skin, interfering with the normal functions of the sweat glands or with sensation. In these cases focal infection is observed frequently enough to make it a factor of great importance.

INCREASED VULNERABILITY DUE TO LOCAL CONDITIONS

As for the skin itself, it should be borne in mind that one of its most important functions is protection, and that a healthy epidermis with its various layers intact defends the body against the invasion of all kinds of organisms. In most of the vocational dermatoses, the starting point and the principal part of the pathologic process is in the epidermis, the corium becoming involved secondarily. It has been well said that "the stratum corneum is the first line of defense of the skin." A person whose skin is congenitally defective, particularly in the outer layers, is very much more liable to develop trade dermatoses than is one with normal epidermis. This is particularly true when the epidermis is very thin. This kind of skin is seen normally in the young and in females, but sometimes in males it occurs as a marked con-

genital abnormality. Sometimes the entire epidermis, particularly the outermost portion, is congenitally hypertrophied, as in xeroderma or ichthyosis. In this condition the horny layer is not constant in thickness, and the secretions vary also. A uniformly intact, firm, pliable skin, so necessary for protection, is not seen. Naturally, such skin is rather susceptible to injury. Skin showing impaired secretory functions is more liable to develop dermatoses. The normal sebaceous secretion serves to keep it in a pliable state and it also affords protection. A deficiency in secretion is liable to result in lowered tone and lowered resistance to various chemical and mineral irritants as well as to atmospheric and thermal conditions. On the other hand, an excess of sebaceous secretion is prone to clog the follicles and the ducts, resulting in irritation and increased vulnerability. Skin of this type is usually favorable soil for bacterial growth. It is particularly sensitive to the deleterious effects of various oils, tars, paraffin, petroleum and allied substances. The liability of a seborrheal skin to develop dermatoses all the way from acute eczema and furunculosis to epithelioma is well known.

Impaired cutaneous circulation can be a potent factor in the production of severe dermatoses. For instance, lupus erythematosus develops when such skin is much exposed to the effects of heat. Chilblains also are prone to occur when the tone of the cutaneous vessels is impaired. The onset of Raynaud's disease may be started by exposure to cold.

That congenital tendency to develop bullae at the site of a slight traumatism which is known as epidermolysis bullosum may be made the basis of a claim for compensation by a disabled worker. Fortunately, the disease is rare.

There are various other conditions increasing the vulnerability of the skin, among which may be mentioned irritating clothing, such as woolens, furs, poorly dyed goods, overzealous bathing, the use of poor soaps, the use of cosmetics, and lack of cleanliness. Too frequently bathing deprives the skin of its oil. The sebaceous secretion is of great importance because it affords protection and increases the suppleness of the skin. Naturally a dried-out skin is prone to crack. The use of "hard water" in cleansing is liable to irritate some skins and make them too dry. It may be readily seen that habits and conditions at home and away from work may have a great deal to do with rendering the skin more liable to develop vocational diseases.

TREATMENT IN GENERAL

Prophylaxis against vocational dermatoses should include efforts to cause an increased thickness of the horny layer and to improve the integrity of the rest of the epidermis. While this is being accomplished, some protective substance should be kept applied, or gloves or bandages should be worn when the person is at work. It is usually more practicable, however, to rub in some form of grease. Ordinary cold cream is often very useful. With the addition of lanolin, its protective qualities are increased. It should be rubbed into the exposed parts several times daily and always after each washing. Some of the tragacanth lotions may be of benefit.

If the person's skin stands glycerin well, a 25 per cent. aqueous solution will serve to prevent undue dryness after washing. It is to be rubbed in well and not wiped off afterward.

As a keratoplastic agent, resorcin is extremely useful. The various tars are also valuable for this purpose. A 2 per cent. solution of resorcin in water or in dilute alcohol, applied as a compress, will soon cause the formation of a new horny layer of the outermost prickle cells and the prompt exfoliation of the old horny layer. When the skin has shown increased sensitiveness and particularly a tendency to be moist, this action is very desirable. As soon as this object has been gained, however, the resorcin application is to be discontinued, as it will in the same manner cause exfoliation of the new stratum corneum. When there is much infiltration and crusting, resorcin is contraindicated. If properly applied, tar will cause the disappearance of infiltration, scaling and discharge, and assist in the formation of an intact resistant epidermis. It must be remembered, however, that in some persons, tar may cause a dermatitis, a folliculitis or an acne. The patient's tolerance should be tested first by applying the tar preparation to a small area for a day. The tar may be used at night in the form of an ointment or paste spread on cloth and applied to the parts. A useful preparation for day use is camphor cerate, which may be rubbed in frequently. The petrolatum and the wax offer considerable protection. While some plan to increase the resistance of the worker's skin is being carried out, it would be desirable for him to have a temporary change of occupation. It is hardly necessary to add that with the improvement of his general health, his general recuperative powers, as well as the resistance of his skin, will be increased.

DERMATOSES SIMULATING INJURIES

There are some skin diseases that may be mistaken for vocational dermatoses, but may be readily recognized by our making careful routine examinations, including a survey of the entire skin. For example, scabies, pompholyx, lichen planus, dermatitis exfoliativa, epidermolysis, urticaria, urticaria pigmentosa, syringomyelia, eczema seborrhoicum, eczema or psoriasis may be offered as vocational dermatoses by mistaken or unscrupulous claimants. It is true that some of these may be partly due to the work, or aggravated by it. Malingerers are prone to try to make capital out of existing skin eruptions, and it is sometimes difficult to determine to what extent the disability is self aggravated. The various types of self-inflicted injuries are easy to detect, because the malingerer is seldom clever enough to make his eruption behave in a consistent manner.

SEBORRHEIC DERMATITIS

A troublesome class of cases is that in which the claimant's skin shows increased sensitiveness on account of digestive or metabolic disturbances, bad habits (particularly use of alcohol and other drugs), unhygienic home surroundings, or uncleanliness. Equally troublesome are those aggravated cases in which the condition has been complicated by maltreatment. Unfortunately, there are many such cases. The following record is a good example:

Case 1 (2858).—Mrs. S., aged 50, engaged in peeling tomatoes in a cannery, presented large infiltrated patches of subacute eczema on both hands, wrists, flexures or elbows, and lumbar and sacral regions. She claimed that this was caused by the irritating action of juice from the tomatoes. Her entire skin was seborrheal and her scalp covered with greasy, brownish crusts. She was of that obese type commonly seen with seborrhea. She had a pronounced enteroptosis which had

existed for years. Concerning her history she was vague in her statements, excepting with regard to her dermatitis and its alleged relationship to peeling tomatoes. The patient was given advice regarding her diet and general conduct, and something was prescribed for her skin. When she was seen again seven months later, it was observed that she still had patches of seborrheic eczema on her inner thighs, intergluteal region, legs and feet, but her hands and arms were free.

A preexisting seborrhea and long-continued bad habits of eating made this patient liable to have seborrheic eczema after any general disturbance in health, or after injury by any external irritant. Such persons are poor "risks" for insurance companies, when their work brings them in contact with irritating substances, or when their habits and environment are such that indigestion or other metabolic disturbances may result.

DERMATITIS VENENATA

Dermatitis venenata, due to poison oak and numerous other irritants, is often seen as a vocational disease. I have also observed cases in which the trouble was due to exposure to the primrose plant, irritating dye stuffs, dyed furs, Japanese varnish, irritating dust from working on teakwood, various "hair tonics," liquor formaldehydi, soaps, and solutions used in photography. In all obscure cases of dermatitis, it will be of great aid in making a diagnosis to investigate with these possibilities in mind. During the past year, there have been seen in increasing numbers cases of dermatitis resulting from contact with furs and various fabrics that probably do not have as good quality of dye as these materials formerly had. Some of the furs do not seem to be as well prepared as they were before the war. Idiosyncrasy is a very important factor in these cases. The list of substances for which individuals have shown an idiosyncrasy is extremely long.

The following report of a case of acute dermatitis illustrates difficulties sometimes encountered:

CASE 2 (2811).—Mr. Q., a young stevedore, presented a severe dermatitis involving his scalp, ears, neck, forearms and elbows. Careful examination established the fact that it was a dermatitis of external origin. The patient stated that it was due to the irritating action of dust from niter, which he was unloading from a vessel. I sent in a report as required by law, and after describing the condition, stated that the dermatitis was due to an external irritant.

The employers, after some delay, replied that they would not pay the claim. The patient left for parts unknown. The insurance company declined to pay the medical fee because it "had not contracted for the service."

In this case, the medical attendant had rendered definite service of value to the patient, the state, the insurance company and the employers; and the insurance company and the employers took advantage of technicalities to avoid paying for it. Such experiences are only too common. Some insurance companies are prone to impose on the physician, by utilizing his expert knowledge, and not paying for it.

RICE WORKERS' DERMATITIS

Since the rice-growing industry has developed in California, cases of dermatitis have been reported among the workers on the threshers and binders. Up to the present time, it has been impossible to determine whether in these cases the dermatitis was due to ordinary dirt, alkaline soil, secondary infection due to scratching, mosquito bites, an infectious dermatosis or the irritating action of some substance belonging to the rice plant. This matter is now being investigated. In this connection, an article by Mantegazza[1] is of special interest. The author describes a dermatitis caused by the presence in some of the rice fields of a water plant, *Najas minor*. This plant has numerous little thorns which work their way into the skin, thus starting the irritation. A dermatitis rapidly develops on the exposed parts of almost all workers in fields contaminated by this plant. The article ends by classifying the causes as (1) predisposing: warmth of the water, maceration, thinning of the skin, and foreign matter in the water, such as the products of disintegration of plants, chemical fertilizers and various organic substances; (2) determining: thorns of the naja plant, and (3) complicating: ordinary pus organisms.

ECZEMA

Eczema of the hands is a common complaint among claimants. Probably it would be better to use the term "dermatitis," for the inflammation in these cases subsides promptly when the exciting cause is removed.

In eczema the process tends to become chronic. It must be borne in mind that eczema of the hands may develop out of a trade dermatitis in persons whose skins manifest eczematous tendencies. Some skins seem to have this tendency from infancy to old age.

There are certain occupations in which the condition is prone to occur. Naturally, it would be seen more commonly among those whose hands are exposed to irritating substances. The list of these substances is very long, and includes all the irritating chemicals, as well as those that cause trouble only when the worker shows an idiosyncrasy for a particular irritant. Sensitization to poison oak, teakwood dust, and various plant juices and varnishes is seen rather often.

Sometimes a patient with pompholyx or dyshidrosis of the hands will claim that his disorder is due to his occupation. Examination will often show the condition also on the feet, which fact helps in establishing the diagnosis.

Syphilis, scabies or psoriasis, which are readily differentiated from dermatitis of the hands because of the occupation, are practically the only diseases to be considered in this connection.

SCARS AND KELOID

Painful scars and keloid resulting from various forms of injury, particularly acid burns, are met commonly. In one of these cases the disability had been prolonged and aggravated as the result of attempts at surgical removal on the part of the company's surgeon. Naturally there was a prompt recurrence, and the new keloid occupied a much larger area.

I have found roentgen and radium therapy the most satisfactory method of treating these cases. The pain is promptly relieved and the neoplasm caused to grow smaller. Occasionally scars are seen in which the epidermis is so thin that it affords little protection to the tissues beneath. In these cases artificial protection, such as varnishes, plaster, or powders, as well as alcoholic and astringent lotions, is of value. Case 3 illustrates the difficulties sometimes encountered:

CASE 3 (2662).—A man had an extensive scarring of the scalp resulting from burns. During the process of healing the burns, various irritants, like tincture of iodin, ammoniated mercury and silver nitrate, had been applied by the company's surgeon. As the scalp would not heal, the patient

1. Mantegazza: Arch. f. Dermat. u. Syph., 1911, pp. 108-314.

was finally referred to Dr. Emmet Rixford and myself. Under the application of compresses of resorcin, 2 per cent., in 50 per cent. alcohol, the areas healed, but the resulting epidermis was extremely thin, except that here and there were seen a few "islands" of normal thickness. This thin, onionskin-like epidermis was so delicate that it broke down easily, and a skin grafting operation was decided on. This was successfully accomplished by Dr. Rixford, and the man now has a good resistant scalp.

Only too often, patients presenting claims for compensation on account of vocational diseases have their disability unduly prolonged as a result of improper treatment. This treatment may consist of the use of home remedies or prescriptions by pseudodoctors. Maltreatment of a benign process will often convert it into something very troublesome and disabling. If those assuming the responsibility of looking after these cases will only remember that a dermatitis requires the most soothing treatment at first, there will be a great diminution in the number of complicated cases, with a corresponding reduction in the expense to the state and to the individual. With physicians, as with laymen, the impulse to use strong remedies is only too compelling. The feeling that if a 1 per cent. solution is recommended as being efficacious, "a 20 per cent. solution will be that much more effective and 50 per cent. even better" is responsible for many of these aggravated cases.

240 Stockton Street.

THE DIAGNOSIS OF THE HIGHER GRADES OF MENTAL DEFECT

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The revelation that crime and mental deficiency are often interrelated, or that business failures are not always due to economic fluctuations, has brought to the medical profession a subject for serious consideration.

Officials of corporations are more than ever demanding efficiency and are keenly alive to the shortcomings of their employees. The public is manifesting a greater care in the selection of its adopted children, and there is a tendency among criminal jurists to treat offenders in the light of what they are rather than what they have done.

This widespread interest in mental defect on the part of the public has had its influence on medical science in the early recognition of these deficiencies. Valuable contributions on the various aspects of the subject are being made from time to time by able workers. Mental deficiency is considered no longer an entity, but is dependent on a great variety of underlying causes. Obviously, the grosser defects require no exhaustive study for classification, but to what extent the higher grades of mental deficiency may be recognized will depend on many factors.

In a study of the backward children in the Richmond public schools extending over a period of two years, four distinct groupings were made. It will be seen that the dividing lines separating the different groups may become obscure, as one type may easily assume the principal features of another. In fact, so closely may the so-called normal mentality resemble the abnormal that a true distinction may be impossible. With this classification as a basis, candidates for the special classes were selected and their program of instruction outlined.

In the first group is placed the child who, though normal, has been retarded in his academic progress by protracted illness or poor school advantages. Many children from the rural districts fall into this group. They may be several years behind in their grades, and to some people they may appear defective. Aside from manifesting evidences of an untrained mentality, their reactions are normal, and a hopeful prognosis for them can be given.

The second group is composed of children who are normal in every respect, yet who require a longer period of time in which to complete their grades. Their reactions are slow and their responses are correspondingly delayed. No cause can be assigned for the backwardness of this group, but their outlook for useful citizenship is good.

The third group is made up of children who, because of acquired conditions, have been unable to carry their work to a successful issue. For example, the retarding and debilitating influences of improper environment, and the lack of constructive sympathy, and of insufficient food and clothing in many instances, convert the normal child into the backward pseudodefective. His handicap prevents him from fulfilling his natural obligations, and he is incorrectly classified as subnormal. In like manner, the nervous instabilities of youth from various causes place the child at a disadvantage to such an extent that there is a tendency to question his mentality.

The fourth group is composed of the mental defectives. The well defined defective is recognized at a glance. His early history, slow development, and inability to profit by experience is typical in practically every case. He is unable to carry the usual performance tests to completion, he becomes fatigued easily, and there is a general deficiency in all of his mental processes.

The higher grade mental defective, however, because of his similarity to the normal, is a much more difficult problem, and is the subject of this discussion. The recognition of this type is not based on any specific tests or physical signs, as his attainments along many lines may frequently place him above the plane of inferiority.

It is necessary, therefore, in order to make an incontestable diagnosis of mental deficiency, to adopt a general plan of examination, the scope of which should include a study of the following headings:

1. The question of heredity should never be omitted. It should be remembered that an obtainable family history almost always means a bad heredity. There is a strong tendency on the part of relatives to suppress the suggestion that there exists in the family other cases of mental deficiency, such as epilepsy, insanity, alcoholism, and criminality. The various manifestations of family inferiority are most significant in view of the fact that presumably 65 per cent. of defectives come from feebleminded families.

2. The early or developmental history is of interest. Birth traumatisms and, particularly, long and tedious labors are of grave significance. Delay in the age of teething, walking or talking is a most frequent observation, and, associated with certain physical degenerative stigmata, such as facial asymmetry, dental irregularities, or abnormal variations in the size, shape or

relative positions of the ears, is strongly indicative of mental inferiority. Defective motor ability, as shown by a lack of alertness or dexterity, is another striking sign even among the highest grades of mental defectives. Various methods have been suggested to demonstrate this lack of motor control. I have found that the rapid pronation and supination of the hand on the knee will often reveal a poor motor coordination, not otherwise demonstrable.

3. The pedagogic history, as shown by a detailed account of the school life and progress, gives additional evidence of importance. There is the usual record of indifference, repeated failures, truancy and inability to profit by error. The memory or reading ability may be above normal, but when judgment or reasoning is necessary, the defect becomes manifest. There is no part of the examination of greater significance than the information obtained from a careful study of the school period.

4. The social reactions should be carefully observed. Is the person seclusive and noncommunicative? Is he well liked by his companions? Are his tastes above or below his station in life? Is he truthful and trustworthy? Does he associate with his equals in age? If he is an adult, are his business relations open to criticism? Is he capable of holding a position permanently? These and like questions must be asked in order to obtain a conception of his social development. The unmorality of the defective is well known. Inquiry should be made in regard to his general normal insensibility, domestic relations, perversions, vagrancy, court record or tendency to destructiveness. Closely associated with these stigmata are other antisocial tendencies, such as cruelty, selfishness, and to a greater or less extent, the absence of congeniality.

The routine physical examination as a rule reveals very little that may have a bearing on the ultimate diagnosis. It is needless to say that such gross abnormalities as hydrocephalus, paralysis and deformities should receive proper consideration. There are, however, certain definite points that should be emphasized.

Syphilis has long been recognized as an invader of nerve structure, but to what extent it has been congenitally responsible for mental defects has only recently been brought out. During the past year, 30 per cent. of the children who were admitted to the psychopathic clinic at Richmond gave a positive Wassermann reaction. This series presented several interesting features. From a physical standpoint, with few exceptions, no syphilitic lesions were found. Intellectually, they belonged to the higher grade and not to the idiot class. Temperamentally, they were incorrigible, nervous and high tempered. Even a negative Wassermann test does not necessarily exclude syphilis, as Nonne has shown that the serum of congenital syphilitics becomes less sensitive to fixation after the age of puberty. Our experience, therefore, has led us to believe that no other etiologic diagnosis of mental defect should be made until the possibility of a syphilitic infection has been eliminated.

We are indebted to Falta, Goetsch and others for pointing out the frequency with which one or more glands of the endocrine system are factors in the production of mental enfeeblement.

The mentality of the cretin is a matter of common knowledge, but the effect of minor disturbances of the thyroid is often overlooked. A slight puffiness of the eyelids, dryness of the skin, or lack of luster in the hair may be the only evidences in an irresponsible, nervous youth that thyroid therapy is indicated.

Of all the ductless glands, the pituitary gland is probably the most frequently involved. The interrelation of these bodies has made it difficult to designate definite syndromes for each gland; but out of the wealth of clinical and experimental material, sufficient data have crystallized by which many of these syndromes may be recognized. As the pituitary gland is composed of two lobes, the syndrome varies somewhat with the part involved. Briefly stated, when the secretion of the whole gland is overactive, glycosuria, loss of weight, excessive sweating, and osseous overgrowth will result. In states of underactivity, the condition is suggested by an increased carbohydrate tolerance, adiposity, hypotrichosis, and a reversion to the feminine type in the male. Further evidences are dryness of the skin, sexual underdevelopment, stubby fingers, and enlarged abdomen.

In both types, mental retardation is liable to occur. Whenever the hypophysis is suspected, a roentgen examination will often give corroborative evidence, but a negative result should carry little weight. It is not reasonable to suppose that the sella turcica always conforms to the size of the gland it encloses, or indicates the degree of its functioning ability.

Children, particularly of the Southern States, are exposed to another form of infection. Last spring our attention was directed to a boy from one of the ungraded classes in the public schools who was admitted to the clinic for diagnosis. His listlessness and inability to comprehend the various psychologic tests were strikingly noticeable. An examination of the blood showed an eosinophilia of 27 per cent., and the feces were found harboring many ova of the Uncinaria. His recovery and restoration to the regular grades was so prompt after treatment that it caused us to have more profound respect for uncinariasis as a cause of the higher grades of mental deficiency.

Having established an etiologic diagnosis, the physician finds the more difficult part of the examination in determining the degree and type of the mental defect.

The idiosyncrasies of the normal mind and the frequent flashes of normality in the defective mind are so commonly found that one hesitates to express an opinion until all methods of examination have been exhausted. We are indebted to the clinical psychologists for valuable contributions to this phase of the subject. Münsterberg, for instance, has pointed out the irregularities of the so-called normally functioning mind. By constructing miniature trolley lines, and placing his subjects in charge of these cars, he was able to demonstrate the utter lack of judgment and reasoning ability is some, as well as their inaptitude for that particular kind of work. His results suggest the practicability of applying certain psychologic tests for the purpose of determining the fitness of applicants for the different vocational pursuits.

The development of a normal mind varies materially in different individuals, and its progress is influenced by a variety of factors. It is only when these exceptions have been considered, and there still remains an erratic tendency, that one is justified in entertaining the suspicion of a subnormal mentality. On the other hand, one should not allow his conservatism to overlook the underlying defective background in

the so-called one-talented child. Not infrequently are the hopes of fond parents crushed by the ultimate realization that the easy mastery of music or some other fine art is the extent of their child's ability. The younger the child, the less prominently do his defects stand out. But as responsibilities increasing with his age are placed on him, his weaknesses become more clearly manifest.

The criminal instinct may frequently be the only indication of a latent defect, and it is only after repeated conflicts with the law that his helpless condition is recognized. During the past three years it has been my privilege to examine a number of children who were referred by the judge of the juvenile court to the psychopathic clinic for examination. One of the most striking observations of this series is the contrast between the relatively high grade of mentality and the type of the crime. It has been a common experience to find a boy of fair intelligence guilty of the simplest forms of criminality. Psychologically, these lads often show evidences of academic ability and even commercial attainments; but after an analysis of their reactions in problems relating to moral procedure, the cause of their downfall becomes apparent.

In detecting the defects of the subnormal mind, it must be recalled that intelligence is composed fundamentally of memory, comprehension and judgment. Under these general headings, there naturally come other subdivisions, such as perception of form, retentiveness, planfulness, concentration, and constructive imagination. Definite psychologic tests must therefore be employed, the results of which will determine the integrity of these mental characteristics. The simple Binet questionnaire serves admirably for the detection of the low and the middle grade types; but when aid is most needed in the recognition of the moron, little dependence can be placed on it. Recently, the Terman revision of this test has greatly enhanced its value, having added many analytic problems as well as introduced a broader field of inquiry.

There is a growing belief among psychologists, however, that standardized performance tests offer the greatest field of usefulness. With such instruments in the hands of competent observers, much may be learned from the patient's reactions. Chief among these may be mentioned the form boards, cubes and cylinders, all of which may be used to advantage in psychologic examinations.

Finally, the practical personal examination of the child is indispensable. No definite syllabus can be followed, but interrogatories must be made to suit the age, and the educational, social and environmental advantages. Moral or ethical problems may be introduced in such a way as to bring out the child's ideas of ethics, which are usually at fault in the defective. It is surprising how frequently a high grade moron shows mature judgment in dealing with generalities, but is absolutely at sea in their practical application. He may be familiar with the laws governing his mode of living, but he fails to see the necessity of applying them to his own activities.

In examinations of this kind, it must be remembered that after all, the ability of the defective to earn a living, to maintain himself independently in the station of life in which he is born, is the supreme test of normality. The necessity, however, of recognizing the lack of this ability before the age of maturity arrives is obvious. When the supposed defect is not real, but is dependent on acquired conditions of a remediable nature, an early diagnosis is indispensable for complete restoration. Should the evidence, on the other hand, point to a mental enfeeblement, much may be accomplished by specialized training. The judicious selection of the defective's vocation, his mode of living, asd other environmental factors depend on the type of the defect. When the deficiency is without the pale of therapy or hope of alleviation, we are in no less degree under obligation to protect the individual and the community in which he lives.

1317 Park Avenue.

THE VALUE OF THE FACE MASK AND OTHER MEASURES

IN PREVENTION OF DIPHTHERIA, MENINGITIS, PNEUMONIA, ETC.*

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Health authorities generally consider that pneumonia, epidemic meningitis and epidemic poliomyelitis as a rule if not always are transferred directly or indirectly from the sick to the well. This places them among the infectious diseases that have previously been considered contagious.

Specific protective measures are available in smallpox, typhoid fever and diphtheria. In the other contagious diseases we must rely on mechanical measures and on germicidal agents and processes for the prevention of their spread.

The use of antiseptic agents in preventing the spread of contagious diseases has been gradually narrowed, and is now largely limited to the disinfection of various secretions and discharges. Even here heat has supplanted them to a large degree. Volatile antiseptics that were formerly extensively employed in fumigation have been largely abandoned as wasteful and inefficient.

The experience of a hospital in which patients with a variety of contagious diseases are housed simultaneously may be of some value in showing the efficiency of certain measures in preventing the production of cross infections among the patients and of infections and carriers among the attendants.

The Durand Hospital has about fifty beds, placed on two floors of a single building connected by stairways and an elevator. Each floor is divided by a corridor with a door at each end opening on the outside. To one side of the corridor are ten isolation rooms, each containing two beds. A common entrance vestibule with lavatory, and common bath room with toilet and lavatory are provided for each two adjoining rooms. On the opposite side of the corridor, at each end, is a small convalescent ward with five and six beds, respectively. Patients on entrance are placed in the isolation rooms, when required two patients in a room, but always only those with a common disease in a suite. Patients from a family are placed together, and when convenient an adult and a child are associated, since the adult is more likely to be immune to the usual diseases of childhood. Several different diseases are often treated on one floor. After isolation for about two weeks, patients with corresponding diseases are transferred to the convalescent wards. wo weeks cover the incubatiTon period of measles,

* From the Memorial Institute for Infectious Diseases.

but not quite that of mumps and chickenpox, and in a few instances patients infected with the latter diseases shortly before entrance have developed them in the convalescent ward. Cultures from the throat and nose for diphtheria bacilli are made on entrance and just before transfer to a convalescent ward. All girls with a vaginal discharge are supplied with individual toilet articles, and do not use the bath tub and toilet used by others.

No fumigation is used in the hospital except occasionally for patients' clothing which cannot be sterilized by steam. No antiseptic solutions are used for washing rooms or for the hands of nurses and attendants. Soap and warm water are used to wash walls, floors and furniture. Bedding is sterilized in an autoclave, as is all laundry before it is washed. All waste, soiled dressings, applicators, tongue depressors, etc., are collected in paper bags and burned. All eating utensils are sterilized by boiling after each use. The nurses and physicians wear caps which completely cover the hair. In the vestibule the nurse puts on the gown which corresponds to the room she is about to enter. On leaving the room she hangs the gown inside out in the vestibule, and thoroughly washes the hands with soap and running warm water. Nurses are impressed with the need of great care in avoiding the transfer of infection from one patient to others, and with the principal rôle of direct carriage, especially by contaminated hands. Except in the case of measles and chickenpox, distant aerial transfer is ignored. The doors of rooms are left freely open, except in case of the two diseases mentioned, when they are kept closed.

From March, 1913, to September, 1917, 2,500 patients were treated in the hospital. Among these patients, nineteen instances of secondary or crossed infection originating in the hospital occurred, that is, in 1 in 131 patients, or 0.76 per cent. These instances are scattered quite evenly among the admissions, seven occurring in each of the first and second thousands and five among the last 500. Almost all the crossed infections developed in isolation rooms, one of the occupants having been infected before entrance and developing the disease in the hospital and infecting the roommate. From the secondary cases no spread was observed. Only two instances of diphtheria were recognized as originating in the hospital. Both were in patients who had scarlet fever, in one of whom it was quite likely that the infection was present before entrance. The six cases of crossed infection by scarlet fever could be accounted for only by direct carriage. Four of these occurred among the first thousand cases, when our method was not fully developed. Our experience would indicate that if each patient could be isolated individually for three weeks, crossed infections could be practically eliminated from hospitals for contagious diseases. The expense of handling patients in this manner is relatively great, but that is counterbalanced by the shortened stay in the hospital and by the elimination of deaths due to crossed infections.

We have made special efforts to protect the nurses from infections, and experience has led us to improve our methods from time to time. The nursing staff has consisted as a rule of about eight graduates and ten pupil nurses. The graduate nurses are specially trained to care for contagious diseases. Pupil nurses are in the hospital three months, and usually have had no previous experience in caring for this class of patients. From March 12, 1913, to Nov. 1, 1914, sixty-nine nurses were on service in the hospital. Of these, nine, or 13 per cent. acquired clinical diphtheria. Beginning with Nov. 1, 1914, all incoming nurses have been given a Schick test, and those reacting positively have received an immunizing dose of diphtheria antitoxin. This has been repeated at intervals of three to four weeks during their stay. Since this procedure was adopted, there have been 116 nurses on duty; forty-four have given positive Schick reactions and have been immunized. During this time only three cases (2.6 per cent.) of mild diphtheria have developed. Two of these cases were in nurses who previously had positive Schick reactions and had been immunized. Their period of service being near the end, a retest was neglected, with the result that infection occurred.

Although active diphtheria practically has been eliminated from the nursing staff by this practice, carriers of diphtheria bacilli continued to be detected by weekly throat cultures. From Nov. 1, 1914, to June 1, 1916, ten carriers were found, that is 23.25 per cent. of forty-three nurses. About June 1, 1916, the practice of wearing gauze masks covering the nose and mouth when caring for active diphtheria patients was introduced, and since then six carriers have been detected among the seventy-three nurses on duty, that is, 8.2 per cent.

From March 12, 1913, to June 1, 1916, nine cases of scarlet fever occurred among 112 nurses on duty. Between June 1, 1916, and Dec. 1, 1917, when gauze masks were worn when all patients with scarlet fever in the acute stages were being cared for, no cases of scarlet fever have been observed among seventy-three nurses on duty.

In recent years, so much emphasis has been laid on contact infection in contagious diseases that the possibility of infection through the air at short distances has been sometimes forgotten. Infection through the air for relatively short distances, that is, within a few feet of the patient (or carrier), is quite possible in case the specific agent is present in the secretions of the nose and throat when forcibly thrown out in small particles in forced expiratory efforts, as in coughing, crying or sneezing.

The masks we have used consist of a double thickness of gauze, so shaped as to fit closely over the face from the chin well up over the nose, and held in place by two tapes tied behind the head. A mask is never worn twice until sterilized and washed, and is always replaced by a fresh one when evidently contaminated or when it becomes moist. Little objection is made to wearing the mask, and most nurses now wear them constantly when on duty. The attacks of tonsillitis, pharyngitis and rhinitis that were relatively frequent before the masks were used also have almost disappeared in the last year.

Last spring we cared for fourteen epidemic meningitis patients in the hospital. When caring for these patients, nurses and physicians always wore masks. Systematic nasopharyngeal cultures, repeated at short intervals, failed to reveal a single carrier of meningococci among the nurses and doctors who took care of these patients.

The physicians in the hospital always wear the gauze masks when doing intubations and taking throat cultures, and to a considerable extent when examining patients. Coincident with this use of masks there has been an absence of diphtheria or diphtheria

bacillus carriers among the physicians, and only a limited amount of throat infections.

We feel that great protective usefulness resides in this mechanical measure, and think that it might be used to advantage also by persons caring for pneumonia patients.

In hospitals caring for pneumonia and epidemic meningitis, especially in those that deal with epidemic outbreaks, such as occur in military camps, gauze masks might be used with advantage by all physicians, orderlies and nurses. The importance of carriers in these diseases is apparently very great, and that those about such patients become carriers quite frequently is evident when, as I have learned, not less than 12 per cent. of carriers of meningococci occurred among the personnel of a hospital in which epidemic meningitis patients were treated. The mask not only protects the healthy person from infection and from becoming a carrier, but also prevents a carrier from spreading infection to others. Masks can be used to good advantage also in households in which are patients with diphtheria, pneumonia, scarlet fever, epidemic meningitis or other diseases spread by nasopharyngeal discharges.

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GREENSTICK FRACTURES OF THE FOREARM

CORRECTION OF THE DEFORMITY BY CONTINUOUS ELASTIC TRACTION

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At a meeting of the New York Surgical Society, Nov. 8, 1916, Dr. Alfred S. Taylor[1] described an elastic traction method of treating Volkmann's ischemic contracture. The apparatus consisted of a padded leather sleeve extending from the elbow to the wrist, and to the sides of this sleeve were attached two steel bars, with an adjustable offset at the wrist which could be made to project at any desired angle over the hand and fingers. A broad pad in the palm of the hand was later extended to support the fingers also; and elastic traction was applied by means of ordinary commercial rubber bands which passed under the palmar pad and over the notched projecting steel bars. The size and number of rubber bands varied in accordance with the requirements of the case. Taylor presented one case and reported several others which had been treated by this method with brilliant results, the continuous slight, but insistent, traction, day and night, ultimately overcoming the contracture.

Shortly after I had heard Taylor's paper and had seen the remarkable illustrative case which he presented, it occurred to me that use of the principle of elastic traction as demonstrated by Taylor would be of benefit in greenstick fracture of the forearm in children; but it was about three months later before the opportunity to test the method presented itself.

Bernard M., aged 17 months, came to my clinic at the New York Post-Graduate Hospital Dispensary, Feb. 27, 1917, with a history of having fallen about three weeks previously and having received an injury to the left forearm. Examination revealed marked bowing of the forearm; a diagnosis of greenstick fracture of both bones of the forearm was readily made, and confirmed later by roentgenoscopy. The callus was still soft enough so that the arm could be partially straightened, but there remained a certain amount of convexity of the posterior surface that tended to become more pronounced as soon as the corrective force ceased.

This seemed a suitable case for the application of elastic traction, and this was employed in the following manner:

A padded wooden splint reaching from the elbow to the palm was applied to the anterior surface of the forearm and held in position by adhesive plaster straps. A fairly thick gauze pad, about 1½ inches square and enclosing a bit of splint wood, was placed over the most prominent point on the back of the forearm, and a rubber band ⅛ or 9/16 inch wide was slipped over the hand and arm so that it encircled the arm at the center of the gauze pad, and was held in position by a strip of adhesive plaster. The rubber band was under moderate tension, and caused no interference with the circulation below that point. A gauze bandage was applied so as to be snug but not compressive from the palm to the elbow. One mistake was made in the application of the rubber band which will be referred to in a moment. At the end of a week the bowing was found to have markedly decreased; but as the elastic band had been allowed to touch the skin at each border of the arm, the skin had been partially cut through at each of these situations. This is the mistake in technic referred to above, and was corrected in subsequent dressings in this and other cases by making the splint on the concave surface somewhat wider than the arm, and passing a broad strip of adhesive plaster rather loosely around the arm, over the splint and the gauze pad, which had been placed at the point of greatest convexity; the rubber band then being adjusted over this and held in position by short, vertically placed adhesive strips anteriorly and posteriorly.[2]

Since adopting this technic, I have had no excoriations of the arm. In the foregoing case, all traces of bowing had disappeared in less than three weeks; and since then I have used this device in several other cases of greenstick fracture of one or both bones, always with the same happy result. The results have been equally as good in cases of several weeks' standing as in those seen within a few days after the receipt of fracture, apparently the only difference being in the length of time the elastic traction has to be applied. Besides the simplicity of the method and perfection in results thus far obtained, another great advantage is that with proper technic the straightening process seems to be entirely painless. My experience with the method thus far (at least six cases) inclines me to the belief that if elastic traction is used from the outset in greenstick fractures of the forearm, it should rarely, if ever, be necessary to complete the fracture in order to insure a straight arm.

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1. Taylor, A. S.: Volkmann's Ischemic Paralysis and Contracture, Ann. Surg., 1917, 65, 28.

2. This case was presented before the Surgical Section of the New York Academy of Medicine, Dec. 7, 1917.

Health of the Average Citizen.—The first campaign of life extension work was conducted in Vance County. During six weeks about 400 persons were examined, one third of whom were women. Ninety-eight per cent. were found physically imperfect; 57 per cent. were in actual need of medical attention and were referred to physicians for treatment; 33 per cent. were unaware of any impairment, and some of these were carrying blood pressures of over 200, while a number showed signs of active tuberculosis and were still unaware of their condition.—North Carolina *Health Bulletin*, August, 1917.

BISMUTH IODOFORM PETROLATUM PASTE IN THE TREATMENT OF RECENT WOUNDS

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Since May 1, 1917, Drs. Walton and Haig and I have used this paste, which consists of iodoform, 2 parts; bismuth subnitrate, 1 part, and liquid petrolatum sufficient to make a suspension, in 2,000 cases of recent injuries in hospital and private practice. Secondary treatments and infected wounds previously treated by any other method are not included.

We have had 725 cases of scalp wounds, and in none has there occurred a cellulitis about the forehead, the vertex or the occipital region. This was unusual, for in our hospitals there were generally one or two cases of scalp infection most of the time, no matter what treatment was used.

It is well known that because of an abundant blood supply, there is a great tendency for scalp wounds to heal without treatment. Yet, never during the past five years have we recorded so many consecutive cases without infection until we adopted this treatment. Therefore, we feel that we are justified in ascribing the results obtained to the efficacy of this paste. These scalp wounds varied in size from a small puncture to wounds 3 or 4 inches in length, and they were often complicated by fracture of the skull. There were stellate and gouge wounds, lacerations, and triangular flaps involving the periosteum.

TECHNIC

Pressure with dry gauze is made on the wound until bleeding has ceased; then the hair is closely cropped or shaved about the wound. The scalp is next cleansed with 0.5 per cent. solution of iodin in benzin. The wound is laid open, dirt particles are removed with forceps, and ragged edges are trimmed with scissors, when necessary. The paste is applied freely to the wound. With a piece of gauze the iodoform crystals are rubbed thoroughly into the wound, so that the medicament is well embedded in the tissues. All surplus paste is then wiped away, and the edges of the wound are coaptated and held together firmly until hemorrhage ceases. Occasionally a spurting vessel will have to be crushed or twisted. No catgut is used. Mattress sutures of silkworm-gut will control severe bleeding. All scalp wounds are dressed dry.

One hundred and ninety-two wounds of the face gave a similar result. No infection followed in this group of cases. After being treated as outlined above, face wounds are carefully approximated and sutured with horse hair. Wounds not over an inch in length are seldom covered with dressings. The blood crust or serum seems to act as a suitable protection against sweat and dust. If dressings are applied, they soon become adherent, a superficial skin infection follows, and then an abraded surface. Face dressings and head bandages are too conspicuous, and are used only at home or in hospitals when compresses are required.

Macerated, contused and lacerated wounds, with maceration of skin and epithelium, are also recorded in this group. While they cannot be considered as healing by first intention, because of extensive maceration, yet in the absence of infection and pus, we have tabulated them as noninfected wounds. They healed slowly by granulation.

REPORT OF CASES

CASE 1.—S. M., a ship-fitter, sustained a fracture of the four metacarpal bones from a blow on the back of the hand by a 12 by 12 timber. Because of its glancing course, the blow caused a maceration of the entire extensor surface of the hand, denuding it of its skin, and exposing, but not injuring, the tendon sheaths. The reaction to the traumatism was very severe. The wound was immediately treated with the bismuth iodoform petrolatum paste. Infection did not take place, and the wound healed promptly.

CASE 2.—J. S., a telephone construction worker, accidentally drove a meat hook into his hand, tearing wide open the thenar eminence and palm, and exposing and stripping the flexor tendon of their sheaths. The metacarpal joints were in plain view. The wound was not sutured. It healed without infection after the preliminary treatment with the paste, supplemented by a prophylactic dose of antitetanic serum.

CASE 3.—Possibly the best type of a case for demonstrating the seemingly brilliant results obtained by this treatment is that of G. C., who sustained a compound multiple fracture of the elbow joint, the result of an angle-iron dropping across the elbow. The joint was laid wide open; the olecranon was separated from the end of the ulna, and the internal condyle from the humerus. The olecranon was nailed in place. The condyle was mashed to a pulp and could not be replaced.

The joint was treated freely with the paste, the crystals were firmly pressed into the exposed tissues, several strands of silkworm-gut were passed through the joint for drainage, and the wound was closed. There was no reaction to the injury. The silkworm-gut drain was removed in ten days. There was no pus nor elevation of temperature. Almost complete motion of the joint was restored. I have never witnessed equally satisfactory results in such a wound.

CASE 4.—A dolly-bar fell several feet and hit J. B. over the left eyebrow, inflicting a contused and lacerated wound, 4 inches in length, and dislocating his eyebrow downward. The eyeball was not injured, and the supra-orbital ridge was not fractured. This was not a clean wound. Numerous particles of dirt were removed from the wound, the roughened edges were trimmed, the wound was sutured with horsehair, and a few straight strands of silkworm-gut were placed in the wound for drainage. The reaction was marked, but the wound apparently healed by first intention. Twenty-seven somewhat similar wounds healed without infection.

Of nineteen case of extensive, lacerated wounds over the tibia, two became infected. In both instances, the infection manifested itself several days after the injury. The wound became inflamed and painful, and when the lower portion of the wound was opened up, a seropurulent exudate was found. Both healed in a few days without cellulitis or complications. In the case of wounds of the leg caused either by a glancing blow from an adz or by striking the leg on the sharp corner of a heavy piece of iron, ripping up the skin and soft parts for several inches, the periosteum is often involved, with more or less bruising and scraping of the bone. Clean cuts seem to heal kindly, but gouge wounds or contused lacerated wounds which involve the periosteum always heal slowly, especially if the patient continues working.

A feature noted in leg wounds which were known to be infected, because of the abundance of dirt particles present, was the apparently slow healing. The edges of the wound seem inflamed, and remain so for from fourteen to twenty-one days. We do not know whether this is due to the traumatism of the underlying tissues or to the irritation from the paste. As contused and lacerated wounds are prone to discharge considerable exudate, drainage should be established. The swelling and edema are less. Therefore, we place a few strands of silkworm-gut into these wounds in the majority of cases.

CASE 5.—J. W. sustained a lacerated wound of the thenar eminence of the left thumb, extending into the web of the thumb and index finger. This gaping wound was caused by a wire rope dragging the hand into a pulley. A palmar fascia and a tendon exposure with an abundance of dirt particles were prominent features of this wound. A mattress suture was used for coaptation. The wound healed in three weeks, apparently without infection.

TENDON SUTURE IN THE PRESENCE OF INFECTION

I wish to record two cases of this kind, both involving the extensor tendons of the thumb, between the first and second joints. After removal of dirt particles, the tendons were sutured with fine chromic gut. Silkworm-gut drainage was made for one week. The thumb was splinted for six weeks. The wound healed by first intention, and the tendons evidently healed. This was an unusual experience, and contrary to previous results obtained in this type of infected wounds.

A compound fracture of the femur, tibia and fibula, in a boy, aged 12 years, healed without evidence of infection. We also had seven other compound fractures which healed without infection.

COMMENT

While the iodoform mixture has been mentioned as one of the newer remedies, iodoform in one form or another has been used by surgeons for a number of years, usually in chronic or suppurating cases. However, because of its successful use in recent wounds in the present war, bismuth iodoform petrolatum paste is becoming more and more popular. Probably the best recommendation for its use lies in the fact that, after using the remedy for six months in all types of injuries, we still have a favorable opinion of it. The remainder of the wounds in our series were about the hands, face and feet, many of them being macerated or contused and lacerated, but all healing by granulation apparently without infection. Our records show less than 1 per cent. of infections.

There were three cases of local iodoform poisoning, but no case of systemic poisoning. As much as 1 ounce of the paste has been used in one dressing without any evidence of systemic iodoform or bismuth poisoning.

In cases of lacerated wounds in children, when the edges of the wound can be coaptated easily, we generally use narrow strips of adhesive plaster in lieu of sutures. In the larger wounds, in which the soft parts are macerated and dirt is ground into the exposed tissues, we recommend trimming the wound edges so as to get a fresh raw surface. The wound is then sutured and drained for a few days.

Particular stress is laid on the application of the mixture. It must be rubbed thoroughly into the wound and pressed into the tissues so that the entire raw surface is studded with the crystals. Hemostasis must be complete, and all excess of the mixture should be removed by wiping with a piece of gauze. There is no objection to suturing when this is necessary, if the buried catgut suture can be avoided.

Iodoform is practically insoluble in benzin, but quite soluble in benzene (benzol, C_6H_6). Three grains of thymol added to 1 ounce of the mixture will render it odorless without changing its chemical quality. One-half dram of thymol added to a 5-yard package of iodoform gauze will likewise render it odorless. The washing of hands, instruments or containers with turpentine or mustard water will likewise render them odorless.

The iodoform-bismuth mixture is an invaluable first treatment for various types of infected wounds, and it is on a par with iodin. It is more economical, and its use is not attended by pain.

It has been my intention, not to consider the treatment of suppurating wounds or to discuss the chemical qualities of iodoform, but to detail the results attained from the use of the paste in a series of cases.

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SPONTANEOUS RUPTURE OF THE RENAL ARTERY *

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Because of its rarity, this condition is of more scientific than practical interest. But as it sometimes occurs, I wish to take this opportunity of reporting an interesting case which recently came under my care, especially as I am able to describe for the first time the actual rupture of the artery in any reported case.

REPORT OF CASE

History.—G. C., man, aged 64, referred to me by Dr. J. L. Allan of Calgary, was married and was the father of eight children, one of whom died of tuberculosis after reaching an adult age. The others were healthy. There was no history of severe injury, nor of any venereal disease. He had never been a very hard worker, and was temperate in his habits. The patient was in his usual health and was ascending the stairs after his evening meal at the end of an ordinary day's work, when he was taken with a very severe pain in his right side, followed by vomiting. When seen by Dr. Allan a little later, he had a normal pulse and temperature, but very severe pain, the cause of which was not clear. When I saw him twenty-four hours later, he was still suffering severe pain. He was a sallow-looking man, apparently older than his age, and rather thin. An extreme grade of arteriosclerosis was apparent. His temperature was 98 F. and the pulse 80. Since the onset of the pain, he had urinated several times with no apparent blood, although the specimens had not been saved; nor had he, to his knowledge, ever passed any blood. For the past year, he had been getting up to urinate at night. There was no vomiting except with the onset of the pain. The right side of the abdomen was distinctly fuller than the left. There was some tenderness and an extreme muscular rigidity over the whole right side from the ribs above to the pelvis below, and from the midline around into the flank. An exact diagnosis was not made, but an exploratory operation was decided on.

Operation and Result.—On arriving at the hospital after a short ride in the ambulance, the patient was found nearly pulseless and in extreme shock, from which he shortly revived. The abdomen was opened by the right rectus incision. A small amount of blood was free in the abdominal cavity. The cecum was found much discolored and infiltrated with blood. Under it, a large fluctuating mass could be felt, extending over the midline and down to the brim of the pelvis. The appendix and other abdominal organs were normal. The abdomen was closed and an oblique kidney incision made behind. A very large hematoma was found surrounding the kidney, and as the blood clots were being cleared away, a profuse hemorrhage was encountered. This was controlled by clamps and ligatures of linen thread, and the remainder of the blood clot was washed away. It was then seen that the ligatures were on the renal artery about 1 inch from the kidney. A tube was inserted and the wound closed. The patient's condition did not permit the removal of the kidney, as he was suffering from a severe condition of shock. He was revived, however, with saline administered both intra-

* Owing to lack of space this paper has been abbreviated for publication in THE JOURNAL by omission of case reports summarized from the literature. The complete paper appears in the author's reprints.

venously and in the rectum. The next day his general condition seemed good, but he had complete suppression of the urine for nearly forty-eight hours. Later, he secreted a moderate amount of pale urine, of low specific gravity, containing albumin, and hyaline and granular casts. For several days his condition seemed fairly good, then he became delirious and eventually comatose, and died on the seventh day from symptoms resembling uremia. At necropsy, the renal artery was found ligatured about 1 inch from the kidney. It was much sclerosed and ruptured, but revealed no sign of aneurysm. Both kidneys presented marked signs of chronic interstitial nephritis, and apart from universal arteriosclerosis, no marked abnormality anywhere. The Wassermann reaction was negative.

COMMENT

In most cases, rupture of this artery results in an aneurysm, either true or false, and is usually described under this heading. In most instances, it is the result of an injury; but some of the cases give no history of injury, and of these I am able to find, together with my own, fifteen cases. An analysis of the cases brings forth the following facts:

Etiology.—Five cases revealed true sacciform aneurysms which gave no symptoms during life and were not a factor in the causation of death. They were found only at the postmortem examination. Three cases were supposed to have been caused by emboli. In one of these, the patient was actually suffering from an ulcerative endocarditis. It is also noteworthy that two of these cases occurred in children and the third in a young adult. The others were all in elderly persons whose ages ranged from 36 to 74 years, with an average of 56 years. Five of these patients were observed to have had marked arteriosclerosis. In the others, the malady was not observed, but I think we may assume that it is a prominent causative factor. My case is the only one in which the Wassermann reaction was taken, and it was negative. In no case is any mention made of the presence or absence of a history of syphilis. From our present knowledge of the large part that syphilis plays in the causation of aneurysm, we should expect its presence in many of these cases.

Sex.—Eight cases occurred in men and five in women, and in one case the sex was not observed. Four patients were definitely suffering from nephritis. This was probably due to the same factor that caused the rupture.

Pathology.—A variety of conditions may grow out of this rupture. The simplest is a small sacciform aneurysm which remains unruptured and apparently does not produce any changes in the kidney or the surrounding parts, although in each of two such patients one kidney was observed to be smaller than the other. The aneurysm may occur anywhere in the main artery or one of its branches, or even within the capsule of the kidney. It varies in size from a hazelnut to an orange. It may rupture, or the artery itself may rupture without first forming an aneurysm when more extensive damage is done. The aneurysm may rupture into the renal pelvis and give hematuria. In the cases in which the rupture occurred the hemorrhage was profuse—a condition that may cause death. The aneurysm may rupture into the peritoneal cavity, thus causing death, or there may be a mere transudation into the peritoneum without actual rupture. When a false aneurysm forms, it may be of enormous size. In Keen's[1] case, it reached from the pelvis to the ribs and from the flank to a point near the midline. In cases of this type, the kidney usually shows marked changes. In one case no remnants of it could be found. The blood may extravasate within the renal capsule, where it may break down and disintegrate the parenchyma, or it may spread between the parenchyma and the capsule. The tumor may displace and become extensively adherent to the surrounding structures. The matting together of the sac and surrounding structures, such as the liver, the spleen, the diaphragm and the peritoneum, is often so firm and intimate and the adhesions so dense and strong that the mass becomes almost inseparable. The contents of the sac are clotted blood in different stages of age, color and consistency. Rarely is it sufficiently fluid to aspirate on its removal. In eight cases, the aneurysm was on the right side, and in five, it was on the left.

Symptoms.—A rupture resulting in a small sacciform aneurysm gives rise to no clinical symptoms. A rupture ultimately giving rise to a false aneurysm produces symptoms of ruptures, as well as symptoms later given by the false aneurysm.

Symptoms of Rupture.—The symptoms of rupture are: acute and severe pain in the side which may radiate to the genitals and give retraction of the testicles; a certain amount of fulness of the flank, the amount of which depends on the extent of the hemorrhage; muscular rigidity over the flank, which may also be over the whole side of the abdomen; vomiting; a certain elevation of the pulse rate, but no elevation of temperature. If the hemorrhage is extensive, there may be considerable shock and other evidences of internal hemorrhage. Once a false aneurysm is formed, symptoms will sooner or later be manifest. Of these, a tumor is perhaps the most evident. It was observed in five cases, and it varies in size from a grapefruit to a mass filling the whole side of the abdomen. The tumor is usually fixed and does not move on respiration, and its surfaces are smooth. Pulsation was not observed in any case. As a reason for this fact Keen mentions the relatively small artery with a large sac, since the impulse of the blood is not sufficient to distend the large sac and produce pulsation. I think the more probable explanation is that these are false aneurysms, largely if not wholly filled with clot, and therefore they do not pulsate. The true aneurysms are small and deeply placed, and therefore not easily palpated. A bruit was not detected in any case, probably because it was not looked for. It would probably be present in some, if not many, of the cases. Pain apart from the rupture is not marked, though a dull aching was observed in some of the cases under consideration. There is usually no marked tenderness unless there is local peritonitis, as in one case in which the tenderness was extreme. Hematuria was present in four cases and was profuse, except in one case in which there was only a trace. In another case it was said to have been the cause of death. It is due to a rupture into the renal pelvis or into the calices. Albumin was observed in only two cases, although nephritis was said to have been present in four. Dysuria and frequent micturition were noted in a few cases. Loss of flesh, weakness, pallor and gastro-intestinal disturbances were complained of by some patients, but in others general good health was well maintained.

Diagnosis.—In five cases of true aneurysm there were no symptoms during life. It was, therefore,

1. Keen: Philadelphia Med. Jour., May 5, 1900, p. 1038.

impossible to suspect their presence. All the others gave symptoms, but in no case was a correct diagnosis made. The rupture may be taken for ectopic gestation, renal colic, perforative appendicitis, or other forms of peritonitis. Pain in the right side with fulness of the flank and possibly signs of internal hemorrhage may here give one the correct clue. The tumor caused by the false aneurysm is also very difficult to diagnose. The condition with which it is most likely to be confused is a renal new growth. It may also be mistaken for hydronephrosis and cystic kidney. A new growth will have a more progressive character, especially in regard to general ill health. Enlarged veins, varicocele or metastasis may clear up the diagnosis. Hydronephrosis is usually more elastic, if not fluctuating, and varies in size simultaneously with the passage of large quantities of urine. At certain stages it is very painful. Pulsation cannot be depended on as a diagnostic feature, but a bruit can be heard in most cases and should be looked for.

Prognosis.—The prognosis without operation is most unfavorable. Some of the patients with smaller true aneurysms died from other causes, but all patients having false aneurysms died from the diseased condition, except one in whom the aneurysm was successfully removed by an operation. Two other patients were operated on and died. One of these cases should not be classed as operative, since the operation has been performed because of injuries, and death was due to these, while the aneurysm had been present for some time previously without giving symptoms.

In my case, death was due to the inability of the opposite kidney to provide for the body, and not as a direct result of the operation. The causes of death were profuse hemorrhage from rupture into the renal pelvis, hemorrhage into the peritoneal cavity, syncope, and exhaustion. In several cases, the causes were from rupture and extravasation of blood in the flank. In some cases, the cause of death was not stated. The length of time during which symptoms were present varied from a few days to five years. If the primary rupture does not kill the patient, it may go on increasing slowly for many months or years until the tumor becomes of enormous size.

Treatment.—The renal artery presents one place in the body where the part supplied by the artery can be wholly removed without producing serious consequences. The only prospect of saving life is by nephrectomy and the extirpation of the aneurysmal sac. In the recent cases and those with a small tumor this can be best done by the flank; but in cases of a large tumor it can best be managed by the transperitoneal route. The difficulties of the operation are considerable, as the adhesions may be dense and the tissues extensively infiltrated with blood clot. The operation will probably be undertaken for some other than the correct condition, and the correct diagnosis may not be at once recognized. An attempt should be made to tie off the artery before disturbing much of the blood clot, or alarming hemorrhage may be encountered. If the patient's condition can bear it, the sac and kidney should be removed. The dangers are hemorrhage and shock. In all cases in which operation was performed, the shock was considerable and required energetic treatment. There is also danger of injury to some of the abdominal contents when the mass is large and the adhesions firm.

THE DISTRIBUTION OF MENINGOCOCCI IN THE UPPER RESPIRATORY TRACT OF CARRIERS *

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This study was undertaken to compare the frequency of positive cultures from the nasopharynx in meningococcus carriers with their frequency from other parts of the upper respiratory tract, and to determine the relation, if any, that such other parts may have to the persistence of the cocci in the nasopharynx. No reference could be found in the literature to any observations on these points.

During an extensive experience with the detection of meningococcus carriers in a large body of men under control, ninety-three segregated men, without discrimination in selection, were examined soon after isolation with regard to the presence of meningococci elsewhere than in the nasopharynx.

TABLE 1.—THE INCIDENCE OF POSITIVE CULTURES OF MENINGOCOCCI FROM DIFFERENT SOURCES OF THE UPPER RESPIRATORY TRACT OF NINETY-THREE CARRIERS

Source of Cultures	Positive	
	Number	Per Cent.
Nasopharynx	66	70.9
Tonsils	29	31.2
Anterior superior nares	16	17.2
Sputum	12	12.9

TABLE 2.—SUMMARY OF RELATIONS OF POSITIVE CULTURES FROM ELSEWHERE THAN THE NASOPHARYNX

	Number
Positive tonsil, negative nasal and sputum cultures	25
Positive nasal, negative tonsil and sputum cultures	11
Positive sputum, negative nasal and tonsil cultures	8
Positive tonsil and nasal, negative sputum cultures	2
Positive tonsil and sputum, negative nasal cultures	1
Positive nasal and sputum, negative tonsil cultures	2
Positive tonsil, nasal and sputum cultures	1

TABLE 3.—A COMPARISON OF THE PERSISTENCE OF THE CARRIER STATE ACCORDING TO THE DISTRIBUTION OF MENINGOCOCCI

Type of Carrier	Number in Each Group	Incidence of Persistence After Six Weeks	
		Number	Per Cent.
Positive nasopharynx and elsewhere	39	28	73.0
Positive nasopharynx, negative elsewhere	27	17	63.0
Negative nasopharynx, positive elsewhere	11	6	54.6
Negative nasopharynx and elsewhere	16	3	18.8

Cultures were made of the nasopharynx, the tonsils, the anterior superior nares, and the sputum of each individual on the same day. The examinations extended over several weeks as the carriers were detected. A sterile wire swab, with the tip bent at an angle of 30 degrees, was introduced through the mouth; the end was passed over the posterior wall of the nasopharynx and removed with care not to touch any other surface. The medium used was plain blood agar made as follows: Approximately 15 to 20 drops of defibrinated goat's blood were added to 10 c.c. of ordinary nutrient agar for each Petri dish. The tip of the swab was rubbed on a small area near the edge of the blood agar plate, and then streaks were made from this inoculation. With ordinary straight swabs, smears were made from the tonsils and anterior superior nares, and inoculations made as described. In case of the sputum cultures there is always the danger of contamination from the mouth. After forced coughing and expectoration into a sterile Petri dish, a loopful of material, which appeared to have come from the

* From the Memorial Institute for Infectious Diseases.

deeper bronchi, was fished out and streaked on the blood agar plate. Only those sputum cultures are reported as positive which give many colonies of meningococci, these being in most instances the predominating organisms. All cultures diagnosed as positive were agglutinated in a dilution of 1:100 or higher of a polyvalent antimeningococcus serum, control tests with normal horse serum giving no agglutination. Fermentation tests with strains from these carriers gave results typical of meningococci.

In Table 1, the relative incidence of positive cultures are summarized. The apparently large number of negative cultures from the nasopharynx is what would be expected for two reasons: First, a large percentage of newly isolated carriers will give negative cultures within a few days, and secondly, many chronic carriers give intermittent negative cultures. An analysis of Table 3 brings out the fact that a greater number of carriers persist as such after six weeks in those groups in which other parts than the nasopharynx give positive cultures.

CONCLUSIONS

The nasopharynx is the most common seat of meningococci in carriers, but the carrier state persists longer, the wider the distribution of meningococci in the upper respiratory tract. The number of positive cultures from other sources than the nasopharynx seems sufficient to warrant the taking of cultures from other parts than only the nasopharynx.

Clinical Notes, Suggestions, and New Instruments

CARE OF THE EYES OF THE PATIENT DURING ETHERIZATION

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It is fortunate that conjunctivitis is an infrequent postanesthetic complication as, when it occurs, the pain resulting from the conjunctivitis is likely to be so severe as to outweigh any other discomfort that may follow the operation. Conjunctivitis is supposed to follow exposure of the eyes to ether vapor, or to result from the spilling of the liquid anesthetic on them. In the anesthetic literature, mention of this question is limited to directions for covering the eyes with a towel, gauze handkerchief, or a strip of rubber tissue for the purpose of protection from the anesthetic vapor. In cases in which these precautions have been carefully taken, conjunctivitis occasionally develops. In a series of 3,000 cases of ether anesthesia by the open method in which the eyes were not covered, although they were exposed to the ether vapor and although liquid ether was without doubt accidentally spilled over the eyes in some cases, no conjunctivitis has occurred.

If the anesthetist allows a drop of liquid ether to be placed in his own eye, no severe reaction follows. Ethyl chlorid is equally harmless to the eye. If a quantity of liquid ether is accidentally spilled over the uncovered but closed eyes of the anesthetized patient, conjunctivitis does not usually follow. When the towel or gauze covering the eyes becomes saturated with ether and remains in this condition, a severe conjunctivitis will probably result. In case the patient's eyes do not completely close during anesthesia, or are held open by a carelessly applied protective covering, conjunctivitis is very likely to occur. There can be no doubt that the precautions usually taken to avoid postanesthetic conjunctivitis in reality increase the danger and often are the sole cause of the trouble.

The only conclusion to be drawn is that, during general anesthesia, the eyes should not be covered. If liquid ether is accidentally spilled over the eyes, they may be washed with saline solution or sterile water, or the lids may be carefully dried with soft gauze. The lids should be closed during anesthesia. In the cases in which there is tendency for them to remain open, they should be frequently closed with the tip of the finger. The lid reflex may be frequently tested with the finger tip and at the same time the condition of the pupil noted. The unclean and unnecessary practice of touching the conjunctiva to elicit the corneal reflex should rarely if ever be indulged in. By this simple technic, the eyes may be safeguarded during general anesthesia.

131 Waterman Street.

DISLOCATION OF THE MIDDLE CUNEIFORM BONE

FRANK WARNER, M.D., COLUMBUS, OHIO
Fellow of the American College of Surgeons

Dislocation of the middle cuneiform bone occurs so rarely that instances of its occurrence should be reported. Its rarity adds to the difficulty of recognizing the condition; but

Fig. 1.—Dislocation of the middle cuneiform bone of the left foot.

unless it is recognized, impaired usefulness of the foot will result. Stimson[1] was able to collect only seven instances of separate dislocations of the middle cuneiform bone, and eleven of fractures. All three cuneiform bones have been displaced together, and the second and third likewise.

March 2, 1917, V. G. E., aged 28, a railway conductor, while wearing a pair of heavy work shoes with extra thick, double soles, had his left foot run over by an empty dump car. The skin was not lacerated, but there was a bony protuberance on the dorsal surface, over the situation of the middle cuneiform. A diagnosis of dislocation of this bone was confirmed by roentgenoscopy. Failing to reduce the dislocation, first without an anesthetic and then with one, I made an incision over the protuberance, and skidded the bone back into position on a pry, when the torn ligaments were sutured together. The

1. Stimson, L. A.: A Practical Treatise on Fractures and Dislocations, Ed. 7, Philadelphia, Lea and Febiger, 1912, p. 914.

wound healed without infection. It was three months after the accident before any weight was permitted to be borne on the foot, that the ligaments might have ample opportunity to regain sufficient strength to bear the weight of the body with impunity.

I saw the patient eight months after the accident, when he was walking perfectly and without pain or discomfort, the foot appearing quite normal again, without having shown any tendency to the breaking of the arch.

Fig. 2.—Evidence of a slight tendency toward the gliding of the middle cuneiform bone out of position, after reduction, which was overcome by compresses.

The foot is so wonderfully supported by ligaments and tendons that nothing but a powerful force can dislocate a bone situated as the middle cuneiform is. Such a force is usually so great that the foot is crushed rather than the bone dislocated.

During the healing process, there was a constant tendency for the middle cuneiform bone to be wedged out of its normal position, which was manifest by its increasing prominence on the dorsum of the foot; however, by the application of compresses, it was kept in position until the ligaments had sufficiently united to hold it in place.

10 West Goodale Street.

A SIMPLE AND RELIABLE METHOD OF MAKING PARTIAL-TENSION PLATES

M. B. COHEN, M.D., WEST SALEM, OHIO

Although there are many methods for making anaerobic plate cultures that give good results, there are few described for partial-tension plates. Wherry and Oliver[1] have devised a technic which they thus describe:

> In making partial-tension plates we have inverted the inoculated plate upon a glass plate on which is fastened (with a small piece of plasticine) a smaller open Petri dish containing a freshly inoculated culture of *B. subtilis*. The inverted dish should be high enough to avoid any contact with the smaller dish. The edges of the inverted dish are then sealed with plasticine as recommended by Lentz[2] for the growth of anaerobes. Plates made in this way and sealed to pieces of window glass of suitable size may be stacked in the incubator.

Apparatus for use in investigations of the adaptation of organisms to various oxygen tensions: *A*, glass tube; *B*, Petri dish; *C*, glass plate.

In the use of this method as a routine in an investigation of the adaptation of certain organisms to various oxygen tensions, a number of serious objections were noted. Especially when relatively soft mediums were used, the water of condensation collected on the glass plate, became inoculated with *B. subtilis*, and unless great care was taken the culture was invariably contaminated. When it was necessary to add a fresh culture of *B. subtilis* to maintain the proper tension, the Petri dish containing the culture had to be lifted and exposed to further chance of contamination.

To avoid these difficulties the following method was devised: A small notch was ground (with a round file) in the edge of a standard Petri dish, which was sterilized and marked. The plate culture made in the usual way, in one of these dishes, was inverted on a glass plate so that the notch fitted over a small piece of glass tubing which had been fastened to the glass with dental sticky wax. The edges of the plate were then sealed with the same material. A similar plate was inoculated with *B. subtilis* and inverted over the other end of the glass tube on the same glass plate. It was also sealed with sticky wax.

This method may also be used for anaerobic cultures by placing the pyrogallic potassium hydroxid mixture in the second plate instead of the medium containing the *B. subtilis* growth.

If this technic is used, no contamination by *B. subtilis* is likely. The *B. subtilis* culture may be renewed as often as desired without disturbing the original culture.

1. Wherry and Oliver: Jour. Infect. Dis., 1916, **19**, 288.
2. Lentz: Centralbl. f. Bakteriol., Orig., 1910, **55**, 358.

FRACTURE OF THE NECK OF THE FEMUR IN A CHILD

CHARLES A. PARKER, M.D., CHICAGO

On account of the rarity of fracture of the neck of the femur in children, this case is reported.

Oct. 5, 1917, a well developed boy, aged 9 years, was admitted to my service in the Cook County Hospital with the complaint of "interference with gait following trauma of the left hip." Two months before, he had fallen from a roof a distance of 15 feet, striking on his left side. After three weeks in bed he was allowed to walk.

There was no pain after his period in bed, but he walked with an obvious limp. This was his condition when he came to the hospital.

Fracture of the neck of the femur in a child.

The examination disclosed about one-half inch of shortening and a relatively high trochanter with almost normal movement of the joint. The roentgen ray cleared up the diagnosis. A plaster-of-Paris spica was applied, and recumbency advised, as the character of the union was in doubt.

7 West Madison Street.

Publicity and Power.—Publicity is the punch in public health work.—Cumberland (Md.) *Health Bulletin.*

AN INVESTIGATION OF KIDNEY FUNCTION THREE YEARS AFTER RECOVERY FROM ACUTE MERCURIC CHLORID POISONING

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Assistant Attending Physician, St. Luke's Hospital

In 1915, Lambert and Patterson[1] published an article on poisoning by mercuric chlorid and its treatment, and reported a series of cases so treated. They thus outlined their treatment: (1) continuous rectal irrigation by the drop method with 1 dram of potassium acetate to the pint of water; (2) washing of the stomach twice daily; (3) irrigation of the colon twice daily; (4) a daily sweat in a hot pack; (5) the administration every other hour of the following mixture: potassium bitartrate, 1 dram; sugar, 1 dram; lactose, one-half ounce; lemon juice, 1 ounce; boiled water, 16 ounces; on the alternate hours, administration of 8 ounces of milk.

Recently we have succeeded in following up one of the most severe of these cases, and had the patient readmitted to the hospital to investigate her present kidney function. The history in this case was as follows:

A woman, aged 22, admitted, March 26, 1914, had taken 30 grains of mercuric chlorid. Shortly afterward she had taken some castor oil and mustard which had made her vomit. One hour later she was given a thorough lavage by a physician. She was admitted to the hospital three hours after the ingestion of the poison. Her past history revealed that she suffered from congenital syphilis, that she had been deaf since childhood, and that she had had an interstitial keratitis for which she had received prolonged mercurial treatment and two doses of salvarsan. Physical examination on admission was negative.

Mercury tests on the patient's urine were positive from March 27 to May 29; on the stools from March 27 to April 24, and on the lavage fluid or vomitus from March 26 to April 26.

From the accompanying extract from the patient's urine chart it will be noted that on the fifth day of the poisoning the patient had almost complete suppression, the entire twenty-four hour quantity amounting to approximately 2 c.c.

The patient was readmitted, May 28, 1917, three years after the poisoning. She looked well, and stated that her health had been good since her last residence in the hospital, save for occasional headache and pain in the back. She brought with her the results of two urine examinations which had been done within the last two months, as follows:

April 13: 600 c.c., alkaline, clear, specific gravity 1.026, no albumin, sugar or casts.

May 2: alkaline, clear, specific gravity 1.028, no albumin, sugar or casts.

The red blood cells were 4,500,000; hemoglobin 95 per cent.; blood pressure: systolic, 115; diastolic, 65. A specimen of urine examined while in the hospital was acid and clear; the specific gravity was 1.020; there was a very faint trace of albumin; there was no sugar, indican, acetone or diacetic acid; there were a few leukocytes and epithelial cells, but no casts.

1. Lambert, S. W., and Patterson, H. S.: Poisoning by Mercuric Chlorid and Its Treatment, Arch. Int. Med., November, 1915, p. 865.

The nitrogen partition of the blood revealed, per hundred c.c., nonprotein nitrogen, 26.3 mg.; urea nitrogen, 16.7 mg.; uric acid, 2 mg.; creatinin, 1 mg.

The renal functional tests resulted as follows:

Phenolsulphonephthalein excretion for two hours, 71 per cent. Ambard determination (McLean modification):

Volume of urine: 5,200 c.c. per 24 hrs., weight, 51.7 kg.
Urine urea: 15 gm. per 24 hrs.; 2.88 gm. per liter.
Blood urea: 0.357 gm. per liter; index, 35.
Urine sodium chlorid: 15.08 gm. per 24 hrs.; 2.9 gm. per liter.
Plasma sodium chlorid: 5.96 gm. per liter (calculated); 6.06 gm. actual.
Difference: 0.10; threshold: 5.72.

An interesting feature of this case was the fact that this patient, a day after taking 30 grains of mercuric chlorid, gave a ++ Wassermann reaction. Four weeks later, after recovery from the poisoning, the Wassermann reaction was ++++. Since that time she had received no antisyphilitic treatment and on her last admission the Wassermann test was negative.

SUMMARY

Three years after recovery from acute mercuric chlorid poisoning in which almost total urinary suppression occurred for twenty-four hours, this patient appeared in good health, showed a slight albuminuria, a normal phenolsulphonephthalein excretion, an increased blood urea and a high urea index, and a delay in salt excretion.

THE URINE IN A CASE OF MERCURIAL POISONING

Date	Amount C.c.	Reaction	Specific Gravity	Albumin	Sugar	Microscopic
March 27	396	Acid	1.010	Faint trace	0	Hyaline and granular casts
March 28	137	.....	.....	.....	.....	
March 29	45	.....	.....	.....	.....	
March 30	45	.....	.....	.....	.....	
March 31	2	.....	.....	.....	.....	
April 1	55	.....	.....	.....	.....	
April 2	396	.....	.....	.....	.....	
April 3	853	.....	.....	.....	.....	
April 6	1,462	Neutral	1.010	Faint trace	0	Few leukocytes; hyaline casts
April 11	660	Alkaline	1.015	Marked trace	0	Few leukocytes
April 13	1,310	Neutral	1.010	Trace	0	Pus cells
April 30	3,991	Alkaline	1.002	Very faint trace	0	Few leukocytes
May 10	4,640	Neutral	1.005	Very faint trace	.....	Few leukocytes

The phenolsulphonephthalein excretion was as follows: April 7, 3 per cent.; April 9, 4 per cent.; April 17, 41 per cent.; April 23, 47 per cent.; May 10, 71 per cent.

A CASE OF BLASTOMYCOSIS WITH LARYNGEAL INVOLVEMENT

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This case is reported because the primary lesion, as far as could be determined, was in the larynx, and treatment with potassium iodid, and later with Koga's "cyanocuprol," failed to stop the progress of the disease.

History.—A man (Case 2960, Modern Woodman Sanatorium), aged 37, laborer in a grain elevator in Kansas, was sent to the sanatorium with a diagnosis of tuberculous laryngitis. His family physician noted on the admission application that the patient had no definite lung trouble and that tubercle bacilli had not been found. In August, 1916, the patient cleaned out some old wood from the bottom of the grain elevator shaft. A few days after this, he developed a severe cold and tonsillitis which "settled" in his larynx. He coughed and sneezed during this attack, but did not raise any sputum. He continued work in the elevator until Oct. 15, 1916, when he had to stop working because of weakness and loss of weight. His family and personal history are good. He entered the sanatorium, Nov. 10, 1916.

Physical Examination.—Skin: An area 3 by 7 inches on the outer side of the left leg was covered with branlike scales. A section of this skin showed nothing other than a thickening of the horny layer. Roentgen-ray exposures seemed to clear it up.

Chest: There was nothing definite in the chest except a slight dulness over the left apex. No râles were heard.

Teeth: There was marked general pyorrhea.

Larynx: There was a marked hoarseness, with pain at times in the ear. On the right tonsil were two small pinpoint yellowish spots. The epiglottis was eroded in a

V-shaped ulceration, the lesion extending well on the tongue. It was not swollen, enlarged or juicy, as often seen in tuberculosis. The entire mucous membrane of the larynx and the cords looked as if they had been treated with silver nitrate. Closer inspection revealed many small, slightly elevated pinpoint yellow spots. There was not the appearance of extensive infiltration that is seen in tuberculous laryngitis with the same amount of involvement. A piece of tissue was removed for diagnosis by Dr. Frank L. Dennis of Colorado Springs, who saw the patient in consultation. A diagnosis of blastomycosis was made, and confirmed by William Ophüls in the following report:

"Sections show marked inflammatory infiltration of connective tissue and considerable proliferation of the surface epithelium. In the proliferated epithelium, several microscopic abscesses. In the inflamed connective tissue, many large multinuclear giant cells of Langhans type. In the latter and in abscesses many small spherical, budding, encapsulated parasites. Blastomycosis of larynx."

Laboratory Findings.—In one of many smears made from the larynx, a few blastomyces were found embedded among bunches of cells. Many cultures were made, but we were unable to prevent other organisms from overgrowing the blastomyces. The urine contained a light cloud of albumin with a few granular casts and some cells. The leukocytes averaged 19,200 per cubic millimeter, with 75 per cent. polymorphonuclears. The red cells were normal. The Wassermann test was negative.

Progress of the Disease and Treatment.—The patient was given large doses of potassium iodid daily, and his throat treated with tincture of iodin every third day. He gained a few pounds in weight, and his temperature remained about normal; but the laryngeal lesion gradually narrowed the space in the larynx to a mere slit. In February, while eating supper, he choked up. Laryngeal examination revealed both cords in contact. Very little air was entering the lungs. A tracheotomy was performed at once.

A roentgenogram at this time disclosed considerable lung involvement. Physical examination revealed an increase of dulness on the left side. Six c.c. of "cyanocuprol," kindly furnished by Dr. Koga, were given intravenously once a week during April and May.

The temperature ran from 98.6 to 99.5, and mimicked an early tuberculosis. The patient was discharged, June 2, 1917, as his condition was hopeless. The dulness in both lungs was now quite marked, but evidence of moisture was still indefinite. The roentgenogram taken at this time disclosed extensive lung involvement.

The patient returned home. The lesion in his throat finally prevented him from swallowing, and he had to be fed by a tube. He died in October, 1917. A necropsy could not be obtained.

A CASE OF COMPLETE SYPHILITIC ALOPECIA

George C. Kindley, B.S., M.D., Dallas, Texas

In 1916 Thompson[1] reported a case of complete syphilitic alopecia, and stated that the textbooks either fail to mention the disease or dismiss it as being rare. Abraham and Davis[2] have stated that a few cases have come under their observation. In 1900 a case was presented by Chambers[3] before the Toronto Clinical Society.

In view of the medicolegal aspect of the case in hand and exceedingly limited number of similar cases to be found in medical literature, I desire to report the following case.

History.—G. H., a section laborer for several years, aged 49, white, and single, entered the Santa Fe Hospital, Temple, Texas, April 8, 1915, complaining of slight cough and some pain in the right side of the chest. The family history was negative. The patient stated that he had had typhoid fever, measles, mumps and whooping cough when a boy, and smallpox two months previously. Venereal history was denied.

Physical Examination.—The patient was of ordinary stature and weight and was fairly well nourished. The head was perfectly bald. There were no eyelashes, no whiskers, and no axillary or pubic hair; in fact, not a hair could be found anywhere on his body. The back of his neck had a pink appearance. The deep reflexes were considerably diminished, but there were no pupillary changes and no ataxia. His own story was substantially as follows: Four years previously he had begun to work for the Santa Fe railway near Lometa, Texas, handling creosoted ties. He had worked at this job for two years, during which time his hair had come out a little in places, and yellowish spots had appeared on the back of his hands and neck. One year after he had stopped handling ties, that is, in June, 1914, his hair had begun to fall out, and in two months it was all gone. He could rub the skin off his hands and neck, so the yellow spots disappeared in this way. He had thought it was all due to heat; but when a lawyer told him it was caused by the creosote, he had decided that at some future time he would sue the railroad.

Subsequent History.—At the suggestion of Dr. O. F. Gober, a Wassermann test was done by Dr. J. J. Terrill and found to be strongly positive. The patient refused antisyphilitic treatment, and in a few days left the hospital. In March, 1916, I saw him in Dallas and found that he had two short, white hairs on one side of his face. A year later, he brought suit against the Santa Fe railway for $20,000 damages, and the trial was had by jury in the Forty-Fourth District Court, in Dallas, from May 7 to 9, 1917. Before testifying as a witness for the defense, I was allowed to examine the plaintiff in private. There were a few short hairs on his face. He seemed comparatively a much older man than he had been two years previously. He claimed never to have seen me. The deep reflexes were purposely inhibited or exaggerated. His gait was somewhat ataxic and he had a marked Romberg's sign. The pupils were distinctly sluggish to light and only slightly responsive to distance. I felt that the history was unreliable, especially with regard to tabes. At the conclusion of the trial, the jury deliberated only fifteen minutes and returned a verdict in favor of the defendant.

Attorney's Statement.—Mr. P. T. Lomax of Fort Worth, Texas, attorney for the defendant, has kindly furnished the following statement in regard to the trial: "Though plaintiff testified that he had consulted several physicians, he had no medical testimony to support his case. No physician testified that creosote would cause the permanent loss of hair. On the contrary, we used two physicians from Somerville, Texas, who had served as local surgeons for the company there which treats ties and timber with creosote and which company, I believe, has one of the largest plants of its kind in the world. The combined service of these two physicians in the capacity indicated aggregated about fourteen years. During that time they had treated hundreds of cases of creosote burns. They both testified that such burns were no more serious at the beginning and progressed no further than ordinary sunburns, and that they had never seen or heard of a case in which any one ever lost hair permanently by reason of coming in contact with creosote. Some of the employees of this plant also testified, in our behalf, that although they had for years at times got their clothing wringing wet with creosote, and had had it all over their faces and in their hair, the consequences had never been more serious than as above indicated. They also suggested that the longer they handle the stuff the more immune they seem to become, and that unless compelled to expose themselves to the sun or to keep the creosote on for long periods of time they rarely experienced any ill effects."

611 Wilson Building.

1. Thompson, Loyd: Complete Syphilitic Alopecia, with Report of a Case, The Journal A. M. A., April 22, 1916, p. 1303.
2. Abraham and Davis, in Power and Murphy: System of Syphilis, London, 1910, 8, 100.
3. Chambers, Graham: Alopecia Universalis; abstr., The Journal A. M. A., Jan. 5, 1901, p. 57.

Military Medicine and Surgery

VALUE OF THE CALIPER IN OBTAINING EXTENSION IN COMPOUND FRACTURES OF THE FEMUR

A PRELIMINARY REPORT

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All surgeons in civil practice have long recognized the inadequacy of most of the methods that have been in vogue for obtaining extension in cases of fracture of the femur.

Buck's extension by means of plaster, or Sinclair's glue, gave but indifferent results. So frequently does shortening, nonunion and malposition obtain that all sorts of methods and devices have been proposed for obtaining accurate apposition and retention of the fragments. During the last few years, many surgeons have gone so far as to propose the radical open operation in practically every case of simple fracture of the femur. The application of Lane plates, the putting in of an intramedullary bone splint, the sliding of a piece of the femur into a mortise, and suturing the fragments with wire and catgut are methods that have been employed with more or less success in maintaining apposition of the fragments.

Fig. 1.—The crude caliper, constructed from meat skewers.

Obviously, the multiplicity of methods gives direct evidence that no one has as yet been eminently successful and satisfactory in all cases.

Experience has taught us that no foreign body should be implanted and applied to the factured ends of bone in a recent compound fracture. There is, I think, unanimity of opinion regarding this principle. What, then, shall we do with compound fractures of the femur that are seen in war surgery in which the wound is potentially infected, and there is usually a comminuting and shattering of the bony fragments and frequently a complete loss of several inches of bone structure?

One faces the problem of first dealing with the large open wound, and secondly the reduction and retention of the fractured bone. If a patient, immediately after being wounded, can be conveyed rapidly to a place where his wound can be adequately treated, I believe the ideal method is to remove the missile and the extraneous material, such as clothing and dirt, and to excise the contused, lacerated and devitalized tissues as widely as is necessary to secure a sterile and resistant surrounding area of tissue.

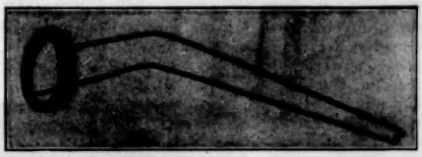

Fig. 2.—The bent Thomas knee splint.

This excision should include skin, superficial fat, fascia, muscle, and the bone that is involved. All loosened, detached fragments of bone should be removed, and the fixed bone cut away sufficiently to go beyond the contaminated bony tissue.

Following this, the wound should be closed either immediately, or within forty-eight hours, with sutures that are inserted at the time of the operation and left loose to be tied later.

If we are successful in obtaining a primary union, and experience is teaching us that this is frequently the case, we are still confronted with a simple fracture of the femur, and our problem is to obtain extension sufficiently great to overcome the pull of the strong spastic muscles of the thigh. More extension is required in the physically strong soldier, with his well developed thigh muscles, than would be necessary in patients with a lesser degree of muscular development.

Some surgeons have long contended that in applying a Buck's extension, or extension by means of bandages and Sinclair's glue, in cases of fractured femurs, the plaster or bandage should be placed above the line of fracture and as far up as the hip joint, in order to secure the most complete pull on, and relaxation of, the thigh muscles.

It has been my privilege to see a large number of compound fractures of the femur, which come to us soon after the wounds are inflicted. Nearly all of these fractured femurs have been dressed at the front and placed in a Thomas splint or some modification of it, and traction has been applied with adhesive plaster or Sinclair's glue. This traction has been maintained usually through a rubber band attached to the bottom of the splint.

During the first few months, we attempted to maintain and continue the traction by means of weights and pulleys. The weight was attached to the adhesive plaster or bandages put on with glue. The Thomas splint, as it has been modified from time to time, is

the most valuable adjunct in the treatment of fractures with which we have ever come in contact. It is applicable to almost every type of fracture from the hip to the foot, and when correctly applied gives the patient more comfort in transportation and after treatment than any other method of fixation that I have been able to devise or observe.

In our early cases, we experienced many disappointments and often serious disaster from secondary hemorrhage and extending infection. It was necessary to sacrifice many limbs with compounds fractures of the femur. Our chief difficulty was in maintaining traction on the distal fragment. The adhesive plaster would become detached and excoriate the skin. The Sinclair's glue was somewhat better, but it was unsatisfactory in that blisters and macerations of the skin frequently occurred. In the glue which we applied ourselves we were reasonably careful in all details, always observing that it was not hot enough to blister the skin. Our chief difficulty with this method of extension was the discomfort it caused the patient without securing the desired results in maintaining the fragments in their proper position.

As an adjunct to this extension, we frequently used shoes around the ankle, plaster of Paris about the leg, and many other devices for attaching weight to the lower extremity.

Each new method of applying extension seemed more and more disappointing.

Fig. 3.—The caliper in position, and the Thomas knee splint slung by means of pulleys from the Balkan frame. Note that the pull on the caliper is in the direction of the long axis of the femur.

At this stage we began to use the Steinmann nail. In a few cases, we attempted to obtain an extension by putting the nail through the os calcis. This was unsatisfactory, for the reason that we were not able to obtain enough extension by weight without producing pain, swelling and effusion in the knee joint.

In the fractures of the upper third of the femur, the Steinmann nail was used with very satisfactory results. In the fractures of the lower third, we hesitated to drive a nail through the bone for fear of adding to the shattering of the already comminuted femur. In the use of the nail driven through the femur, there is always the danger of carrying infection into the medulla.

Some years ago, Ransohoff advocated the use of the caliper or ice tongs applied to the condyles of the femur for the purpose of securing extension. I had used this a few times in civil practice, and it had appealed to me very strongly.

Our difficulty in this area was in obtaining proper devices. Through the ingenuity of Lieut. Cyril J. Glaspel, who has charge of the fractured femur ward, we were able to construct a very satisfactory caliper out of meat skewers. A handy orderly aided us greatly in the making of these crude calipers.

We began to use them on every fractured femur. The comfort that is secured for the patients, and the satisfaction one experiences in being able to control and keep in apposition the lower fragment by this method, are most gratifying. We are now using this method exclusively as a means of extension, and applying it to all fractures of the femur regardless of where the fracture may be.

PLAN OF APPLICATION AND AFTER-CARE

Nearly every patient coming to us has been operated on before reaching this general hospital, and the foreign body has usually been removed and the wound excised. As a rule, no attempt has been made to close the wound and secure primary union; therefore they are practically all open, infected wounds.

If the patient's condition warrants it, when he enters the hospital he is taken as soon as possible to the operating room and given an anesthetic. If adhesive plaster or glue with bandages has been applied, it is removed from the leg and the thigh. The knee is then shaved, and the surface of the skin over the condyle is cleaned with alcohol and iodized.

A small incision about one-fourth inch long is made just over the most prominent point of the internal and external condyles of the femur, and the soft tissues incised to the bone. The caliper is then inserted through the upper angle of this small wound, and the soft tissues pushed slightly upward and backward; and the points of the caliper are then driven into the bone just proximal and posterior to the most prominent point of the condyle.

Careful dissection of the lower end of the femur and of the knee joint has shown that there is practically no danger of opening the synovial sac of the knee joint at this point. It is our aim to drive the caliper into the bone to the extent of about one-fourth inch.

From Figure 1 it will be seen that the caliper is so constructed as to point downward and inward; when the traction is applied to the handles, there is a tendency to push the points a little farther into the bone,

and we have had but one case in which there was any slipping. That was one of the early cases in which the caliper was not properly constructed.

The condition of the wound of the thigh is now considered. It is carefully inspected; and if further drainage is required, it is secured with the removal of any loose fragments of bone or foreign bodies that may be present.

In most cases we make no violent effort at reduction, depending entirely on our extension to paralyze the muscles and pull the fragments into position by subsequent gradual traction. The fragments are manipulated as little as possible, in the hope of preventing the distribution of infection or the unhappy complication of blood or fat embolism. A Thomas knee splint is now applied and is bent at the knee, the acuteness of the angle depending on the location of the fracture.

This knee splint is supplemented by supports which are placed under the thigh and under the leg and secured with soft metal clips to the rods, thus providing for their daily removal for the purpose of dressing the wounds. The Thomas splint is so adjusted that the rods are parallel to the anterior surface of the thigh and of the leg. These supports, attached to the side rods, are devised in such a way as to distribute the pressure equally and uniformly, care being taken to secure an adequate amount of padding.

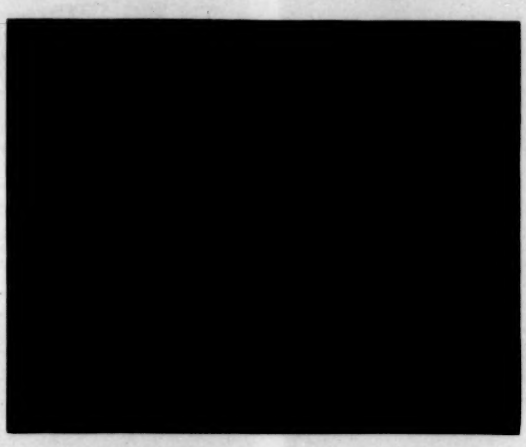

Fig. 4.—Fracture ward, accommodating thirty patients, with the fractured extremity suspended in Thomas knee splints with the extension attached to Balkan frames.

Over the bed of the patient is placed a Balkan frame, to which are attached the necessary pulleys for the securing of correct and adequate traction. The traction applied through the caliper is always in the direction of the long axis of the thigh, this angle varying, of course, with the amount of bend in the Thomas splint, and the location of the fracture. The distal fragment is brought into alinement with the upper fragment.

It is our practice to apply about 15 pounds of weight attached to the caliper. The Thomas splint is also swung by means of pulleys and weights to the Balkan frame. The latter mechanism provides for the easy lifting and handling of the patient. As a matter of fact, with the aid of a sling, attached to the Balkan frame above the patient's head, he is able to lift himself entirely from the bed, the weights elevating the Thomas splint and the injured limb. This provides for the care of the patient's toilet and the dressing of the wounds. At present we have about forty cases being treated by this method. It is a source of the greatest satisfaction to walk through these wards and observe the comfort and contentment of these patients, comfort that it was impossible to obtain by any other means of traction that we were capable of employing.

In those cases in which the union has been secured, the roentgenograms show most satisfactory results both as to position of fragments and length of limb.

It can be said, however, that no plan of treatment that can be outlined and carried out for fractures of the femur can be adequate unless it is accurately controlled by roentgen-ray observations. This can be accomplished only by the use of a portable roentgen-ray machine, which we hope to have in the wards within a short time. This will enable frequent observations, either with the fluoroscope or by means of plates, with the fractures in the position that they occupy during traction.

It is apparent that it is impracticable and impossible to move these patients to the roentgen-ray laboratory and maintain the position that the fracture occupies when traction is acting. Needless to say, without the roentgen-ray control, the exact amount of weight necessary in a given fracture to secure accurate apposition is a matter of conjecture.

I should like to advocate and to urge most strongly the use of the caliper applied to the condyles as being the best method of securing traction in all compound fractures of the femur that it is necessary to treat in the war zone. I regret that my roentgen-ray facilities up to the present have not allowed me to secure roentgenograms of all my end-results. These will be secured later and presented in a subsequent article.

Col. H. A. Balk.nce, A. M. S., the consulting surgeon in this district, has given us many valuable suggestions, and he is now measuring and keeping records of 100 patients treated by this method of traction as compared to 100 treated by other methods. I desire to express my appreciation of his cordial cooperation.

The Hands as Disease Spreaders.—The great agent in the spread of those diseases whose causative organism is present in the secretions of the mouth and nose, is the human hand; and if saliva was bright green we would be amazed at the color of our fingers. As a matter of fact most of us carry our fingers to our mouth or nose many times daily, there to implant the germs of disease which other careless people have spread about, there to collect a fresh cargo of infectious material to scatter for somebody else.—*Public Health Bulletin.*

A STRADDLE STAND FOR PROPHYLAXIS AND TREATMENT OF SEXUAL INFECTIONS IN THE ARMY

JAMES BAYARD CLARK, M.D., NEW YORK
Major, M. R. C., U. S. Army

The illustrations and the title almost completely describe this simple wash stand arrangement.

CONSTRUCTION

It is made of cast iron, enameled white.

It is built from an anatomic standpoint to seat comfortably almost any sized man.

It has hot and cold inlets to its faucet, so that the temperature of the water can easily be regulated.

It has a rubber hose attachment under which the hands are washed before the hose is flexed to flush the genital region of the soldier sitting in position.

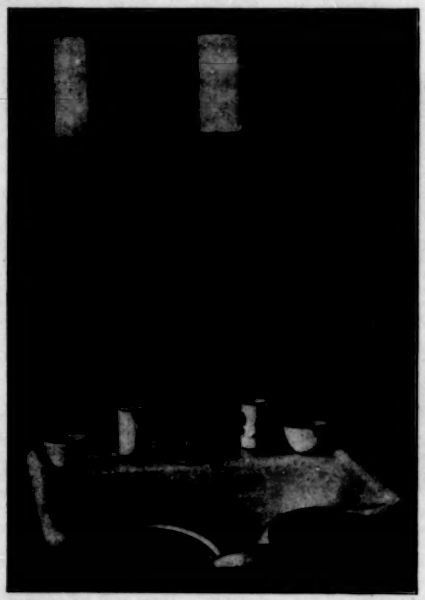

Fig. 1.—Front view of stand.

The most important feature of this equipment is that it will standardize a clean and correct performance of the present prophylactic treatment.

ADVANTAGES

Its advantages can be told in a few words. Practically no other furniture will be necessary. It forces the soldier to make an adequate exposure for the proper treatment, and furnishes an opportunity to inspect the skin for rash or to observe a discharge or any other obvious disease.

It gives the advantage of a thorough soaping followed by a running water wash, which are perhaps the most important points in prophylaxis. With all the paraphernalia within easy reach on the stand and laid out in order of its using, rapidity and accuracy are assured.

It is a lesson in cleanliness and order to the soldier, and it completely protects his clothing from wetting or staining.

When an inspection is made of the prophylaxis station, all the details of the equipment and its cleanliness are told at a glance. Its economy is easy to estimate. The cost of a single stand is less than the cost of a single case of sexual sickness; yet one stand should protect and help in the curing of innumerable cases.

Fig. 2.—Side view of straddle stand for prophylaxis and treatment of sexual infections in the Army.

The straddle stand has some points of advantage in the treatment of genital infections, such as gonorrheal urethritis, balanitis, chancroids and chancroidal phimosis.

The patient in a perfectly relaxed position can be thoroughly cleansed and easily given the necessary treatment

Fig. 3.—Straddle stand in use.

of injections or irrigations. Irrigation for balanitis, chancroids or chancroidal phimosis, either warm or hot, can be given.

In either prophylaxis or treatment, it will insure the confidence of the soldier, and impel the medical attendant toward uniformity.

Therapeutics

SWEATING OF THE FEET AND AXILLAE

Excessive perspiration of the feet and the skin of the axillae is a most annoying condition, and one that frequently is difficult to control satisfactorily. Besides keeping the parts properly bathed and cool, attention should be given to the clothing and shoes. Rubber soled shoes are objectionable if there is excessive sweating of the feet. Impenetrable dress shields should likewise be discarded.

Various remedies have been suggested. Most recent and quite efficient is the remedy suggested by Stillians.[1] He states that a 25 per cent. solution of aluminum chlorid in distilled water dabbed gently on the part every second or third day and allowed to dry will cause a rapid amelioration of the excessive sweating. Three applications are usually sufficient. If the condition recurs, the treatment may be repeated.

An old remedy is the application of a 2 per cent. solution of the official liquor formaldehydi in water to the axillae, and up to a 5 per cent. solution for the feet.

Pure glycerin rubbed on the feet will at times stop offensive sweating. Potassium permanganate solutions of about 5 parts to 1,000 have been found efficient as a wash for the feet. More active, and therefore to be used with more care, especially in the axillae, are "chromic acid" solutions, as:

		gm. or c.c.
℞	Chromium trioxid	2 | 5
	Water	50 |

Use as a paint once a week.

Less active, but more pleasant than the foregoing, is:

		gm. or c.c.
℞	Tannic acid	5
	Alcohol	100
	Water	up to 200 |

Use as a wash twice a day.

Various drying powders have also been suggested for this condition, as:

		gm. or c.c.
℞	Boric acid	10
	Purified talc	100 |

		gm. or c.c.
℞	Salicylic acid	5
	Bismuth subnitrate	40
	Zinc stearate	20 |

		gm. or c.c.
℞	Salicylic acid	2
	Bismuth subnitrate	20
	Starch	20 |

In very severe cases, treatment with the roentgen ray will control the condition. This treatment is of course expensive, and in unskilled hands not altogether safe.

The use of the various solutions of aluminum chlorid, formaldehyd or chromium trioxid may, in some cases, cause a mild dermatitis, perhaps with itching. This may be ameliorated with protection of the parts against scratching, and the application of ointments, such as cold cream containing 12 per cent. boric acid, or a calamine lotion. If there is much itching, 0.5 per cent. phenol may be incorporated in the calamine lotion.

1. Stillians, A. W.: The Control of Socialized Hyperhydrosis, THE JOURNAL A. M. A., Dec. 30, 1916, p. 2015.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

COAGULEN-CIBA (See N. N. R., 1917, p. 127).

The following dosage forms have been accepted:

Sterile Solution Coagulen-Ciba (3 per cent.), 1.5 Cc. Ampoules.—Each ampule contains 1.5 Cc. of a 3 per cent. sterile solution of coagulen-Ciba.

Sterile Solution Coagulen-Ciba (3 per cent.), 20 Cc. Ampoules.—Each ampule contains 20 Cc. of a 3 per cent. sterile solution of coagulen-Ciba.

Tablets Coagulen-Ciba, 0.5 Gm.—Each compressed tablet contains coagulen-Ciba 0.5 Gm. and sodium chloride 0.46 Gm.

HALAZONE. — Parasulphonedichloramidobenzoic acid.—$C_6H_4(SO_2NCl_2)COOH\text{-}1:4$.

Actions, Uses, Dosage, Physical and Chemical Properties.—The same as those of halazone-Abbott (see THE JOURNAL A. M. A., Oct. 6, 1917, p. 1166).

Halazone (Calco).—A brand of halazone.

Manufactured by the Calco Chemical Company, Bound Brook, N. J. No U. S. patent or trademark.

DICHLORAMINE-T.—Paratoluenesulphonedichloramide.—$CH_3C_6H_4SO_2NCl_2$. — The dichloramide of paratoluenesulphonic acid, $CH_3C_6H_4SO_2OH$.

Actions, Uses, Dosage, Physical and Chemical Properties.—The same as those of dichloramine-T, Abbott (see THE JOURNAL A. M. A., Sept. 29, 1917, p. 1081).

Dichloramine-T (Calco).—A brand of dichloramine-T.

Manufactured by the Calco Chemical Company, Bound Brook, N. J. No U. S. patent or trademark.

CHLORAMINE-B (CALCO). — Sodium Benzenesulphochloramine.—$C_6H_5SO_2NaNCl + 2H_2O$.

Actions and Uses.—Claimed to be essentially similar to those of chlorazene (see New and Nonofficial Remedies, 1917, p. 140).

Dosage.—The same as those of chlorazene (see New and Nonofficial Remedies, 1917, p. 140).

Manufactured by the Calco Chemical Co., Bound Brook, N. J. No U. S. patent or trademark.

Sodium benzenesulphochloramide was introduced in medicine by Dakin (Dakin, H. D.: *Brit. Med. Jour.*, Aug. 25, 1915). It was first made by Chattaway (*Tr. Chem. Soc.*, 1905, 87, 153) by the action of sodium hypoxide on benzenesulphodichloramide. It may also be made by treating benzenesulphonamide with a cold alkaline solution of sodium hypochlorite.

Chloramine-B (Calco) is a white, crystalline powder, having a slight chlorous odor. It may be rendered anhydrous without decomposition by drying.

When a small amount of chloramine-B (Calco) is heated, it melts at 170 to 180 C.

In neutral solutions chloramine-B (Calco) liberates iodine from iodides, but not bromine from bromides; when acidified with hydrochloric acid, the bromine will then be liberated.

Hydrochloric acid added to a solution of chloramine-B (Calco) produces a white turbidity; on heating chlorine is liberated. Chloramine-B (Calco) is decomposed by acids (even boric acid), alcohol and hydrogen peroxide solutions.

If about 0.1 Gm. of chloramine-B (Calco) be treated with a few drops of strong sulphuric acid, chlorine is evolved, but no blackening occurs (*readily carbonizable matter*).

If 0.1 Gm. of chloramine-B (Calco) is dried at 97 to 110 C. in a flat-bottomed dish for two hours, it loses not less than 10 per cent., nor more than 14.4 per cent. of its weight (*water of hydration*).

If about 0.5 Gm. of chloramine-B (Calco) (accurately weighed) is dissolved in 50 Cc. of water, 10 Cc. of potassium iodide solution (10 per cent.), and 5 Cc. of acetic acid (36 per cent.) added and titrated with tenth-normal sodium thiosulphate volumetric solution, the available chlorine should not be higher than 15.0 per cent. or lower than 13.0 per cent. Each Cc. of tenth-normal thiosulphate volumetric solution is equivalent to 0.0177 Gm. of chlorine.

Wartime Juvenile Delinquency.—The wartime record of juvenile delinquency abroad shows, according to the Children's Bureau, that the sure penalty for neglecting the home, the school, and the play needs of children is an increasing stream of young delinquents brought to court for offenses that community foresight and care should have prevented. —*Bulletin*, Children's Bureau.

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SATURDAY, JANUARY 12, 1918

THE FORM IN WHICH PROTEIN DIGESTION PRODUCTS ARE ABSORBED

The conception now held of the amino-acid structure of proteins, and the specific need of certain amino-acids in the construction of tissue components, has lent a new interpretation to the purpose of proteolytic digestion in the alimentary tract. There is no longer any question regarding the possibility of an extensive cleavage of proteins during their sojourn in the gastro-intestinal canal. Considerable quantities of amino-acids have actually been isolated from the intestinal contents during the progress of digestion of proteins in the body. Furthermore, the researches of Folin, Van Slyke and others in this country have left little doubt that amino-acids are actually absorbed as such during the digestive cycle; for, by the use of microchemical methods, a noteworthy increase of amino-acids circulating in the blood can be discovered during the period at which the height of digestion may be expected to occur.

Shall we assume, on this account, that proteins are as a rule completely disintegrated into amino-acids in the course of digestion, and that these relatively simple fragments represent the form in which the bulk or all of the nitrogenous foodstuffs are absorbed? Years ago it was believed that the extent to which proteins are altered before absorption went little beyond a stage wherein they became soluble. That a very small proportion of ingested protein may under certain circumstances be absorbed practically unchanged cannot be denied; for foreign proteins have at times been detected in the blood stream by the anaphylactic or other tests. This result for the most part is observed only when large quantities of such poorly digested proteins as uncooked egg-white are administered under conditions of unusual susceptibility or altered permeability on the part of the bowel wall. Thus it appears that in the early days of life the lining of the alimentary canal tends to be somewhat more permeable to certain unaltered proteins; but this condition disappears in a short time as development proceeds. In the case of normal persons, however, it is currently taught that practically all of the protein eaten is presented for absorption and passage into the circulating fluid in the form of amino-acids.

Is there no intermediate possibility between these extremes of belief? Cannot some of the protein be absorbed in the form of proteoses and peptones or polypeptids, which are intermediate stages in its breaking down? Several facts have tended in recent years to exclude this alternative from serious consideration on the part of physiologists. Foremost is the fact that the great majority of careful investigators have been unable to discover proteoses in the blood in health, though these products might reasonably be expected to appear there if they are absorbed as such to any extent. Extensive investigations by Abderhalden seem particularly conclusive in this respect. Furthermore, the demonstrated possibility of adequate nutrition for considerable periods on diets in which amino-acids furnish the sole sources of nitrogen make it evident that there is no actual necessity for the absorption of more complex protein derivatives.

The problem of the precise form in which the protein digestion products are absorbed has been brought into prominence anew by the observations of Abel, Pincoffs and Rouiller[1] of Johns Hopkins University on the unexpected widespread occurrence of proteoses in tissues. Like Abderhalden and others before them, they have been unable to separate a proteose of any kind from the plasma of the blood. From gastric and intestinal mucosa, however, proteoses could be isolated by the Baltimore investigators. Indeed, they found that the gastro-intestinal mucosa may contain as much as five times more proteose during digestion of meat as after deprivation of all food except water. The amount of proteoses or higher polypeptids thus taken up by the entire mucosa during an entire digestive period may be very considerable in the light of these statements. Accordingly, Abel and his collaborators remark that they cannot accept the theory that proteins are taken up by the absorbing surfaces of the digestive apparatus only in the form of amino-acids, but must believe rather that proteoses as well as amino-acids are freely absorbed, as has long been maintained for the former by certain investigators. While Abel, Pincoffs and Rouiller are able to trace the further passage of amino-acids from the mucosa to various organs by way of the blood current, they find it impossible at present to do this with proteoses. These cannot be traced further than into the absorbing mucosa, unless it should be assumed that the cellular elements of the blood are distributing agents for them—a point

1. Abel, J. J.; Pincoffs, M. C., and Rouiller, C. A.: On the Presence of Albumoses in the Tissues and in the Blood, with Special Reference to Their Occurrence in the Gastro-Intestinal Mucosa, Am. Jour. Physiol., 1917, 44, 320.

of view which at the moment one is not justified in advancing. The details of the fate of the absorbed proteoses still remain to be determined. The weakest feature in the new claim lies in the possibility, debated but by no means disproved, that the proteoses found in the mucosa of the alimentary tract and elsewhere in the body are actually absorbed and not produced anew in situ by synthesis.

THE FUNCTIONS OF THE CEREBROSPINAL FLUID

The present wide utilization of lumbar puncture and the examination of the cerebrospinal fluid for diagnostic and therapeutic purposes has focused attention on the fluid as never before. To speak of it merely as the lymph of the brain, as has sometimes been customary, conveys to the average physician no very clear conception of its function or physiologic relations, even though the arrangement of the perivascular and perineuronal systems, filled as they are with cerebrospinal fluid, certainly resembles that of a lymphatic system. Furthermore, it appears no longer to be justifiable to class the cerebrospinal fluid as a lymph of the familiar type. The very essence of a lymph, said Halliburton,[1] in his presidential address before the Section of Neurology of the Royal Society of Medicine, is that it should be in free communication with the blood stream, except for an intervening membrane, and that this membrane should be equally permeable to water and other substances in both directions. This essential character, we are reminded, is lacking in the cerebrospinal fluid; in all probability the lining membrane of the cerebrospinal spaces is permeable to substances passing from it into the blood, but it appears to be impermeable (except for oxygen) in the direction from the blood to the fluid. The nutritive materials the fluid contains appear to be formed in the choroid gland, and not to be merely exuded from the blood stream; otherwise one cannot explain why the protein it contains is not similar to that in the blood or in exudations (lymph) formed from the blood.

We have pointed to the growing evidence that the cerebrospinal fluid is the product of an act of typical secretion. The contents of the craniospinal spaces are not mere residual "leakages" through the walls of the blood capillaries. The pressure of the cerebrospinal fluid is not merely the result of something passively transmitted to it from other circulating systems, even though it may be affected by changes in arterial or venous pressures. Often it may be quite independent of these. The fluid, says Halliburton in his summary, is primarily formed by the secreting cells, which are most prominently found covering the choroid plexuses in the cerebral ventricles, so that this structure may be appropriately designated, as Mott first suggested, the choroid gland. The true cerebrospinal pressure is the result of the secretory pressure of the choroid epithelium cells.

What are the possible functions of a fluid which, though resembling the bathing lymph of other tissues, differs in normally containing only traces of coagulable protein and in having its volume carefully regulated by a special secretory mechanism? A structure so sensitive as the nervous system needs to be bathed by an ideal physiologic solution. "Thanks to Ringer some thirty years ago," Halliburton fancifully expresses it, "physiologists were provided with a suitable fluid for experimental work; but the choroidal epithelium knew the secret of extracting it from the blood for untold ages before Ringer was born. For what after all is cerebrospinal fluid but Locke's modification of Ringer's fluid? . . . The choroidal epithelium, in its wise choice of a suitable circumambient medium for the neurons, is really exercising a protective function. In order to keep out harmful proteins (toxins and the like), the comparatively harmless ones are kept back also, almost completely; all share the same process of exclusion. This protective action applies in addition to the majority of soluble drugs."

To look on a large content of protein as a menace in the fluids bathing the nervous system is to adopt a comparatively new point of view. Yet it is known from the study of anaphylaxis that smaller doses of proteins act when introduced into the brain than when given elsewhere. The nervous system is singularly sensitive to drugs introduced by way of the cerebrospinal fluid. Until we understand the function of the apparently great surplus of proteins in the blood, we shall scarcely be able to interpret the comparative lack of them in the fluid bathing the nervous system. Meanwhile there is certainly nothing improbable in the rôle of a perfect yet simple physiologic medium which Halliburton, one of the most active investigators of this secretion, has assigned to the cerebrospinal fluid.

1. Halliburton, W. D.: The Possible Functions of the Cerebrospinal Fluid, Proc. Roy. Soc. Med., 1916, 10, 1.

GREEN OYSTERS

As a result of the efforts of the U. S. Food Administration to decrease the consumption of certain meats, notably beef and hog products, attention is necessarily focused on other forms of foods that may in some degree replace the proscribed animal tissues. Poultry, eggs, fish and shellfish, accordingly, are gaining an enforced popularity beyond all previous experience. The readiness with which our population is cooperating in the attempt to save certain desired foods for our allies in the war is commendable. The use of substitutes for what has thus voluntarily been given up by a patriotic people should be safeguarded, therefore, in every essential way.

This statement may be taken as the preface to certain comments on the American oyster. The use of this palatable food received a serious setback a few years ago when the possibility of infection was first traced to it. There can be no doubt that the feeding habits of oysters and clams make it probable that they will contain considerable numbers of bacteria of the types characteristic of the waters in which they live. Hence when these shellfish have been kept in sewage-polluted waters, they may easily contain bacteria of the intestinal types and may thus become carriers of typhoid organisms as well as those responsible for less s rious intestinal disorders. It is only fair to the oyster industry to say that it has been sinned against all too freely by individuals and cities that have not hesitated to discharge raw sewage into waters which form the natural habitat of the oyster. State and federal agencies are at length taking steps not only to prevent the sale of contaminated shellfish but also to regulate the noxious features of the sewage problem. We apprehend that in due season the oyster will once again be delivered from its undeserved and objectionable micro-organisms.

The luscious oyster deserves further to be acquitted from the possible charge of harm that may come from "epidemics" of green coloration that have been reported in recent years in certain parts of the eastern United States. It is not generally recognized that green coloration, long known in Europe, may be due to at least two distinct causes. One of these is the presence of copper, leading to so-called copper-green oysters. Green-gilled oysters, on the other hand, such as those at Marennes, which are highly popular in some quarters, represent a quite different abnormality. Their coloration is not due to any metallic component, but rather to a pigment derived from diatoms of the species *Navicula ostrearia* which the oysters ingest.[1]

The United States Fisheries biologic station at Woods Hole, Mass., has at length furnished the demonstration[2] that the Chesapeake green-gilled oyster is the same as the so-called Marennes oyster. This conclusion has been reached because the Virginia oyster corresponds exactly to the descriptions of the Marennes oyster in general appearance and in microscopic examination. The green gills and palps of our southern oyster coincide precisely with the descriptions and drawings of the French oysters; and the method of distribution by secretion cells and the location of the pigment in definite tissues of the gills, as explained by Lankester, is the same as has been found in these observations of the Lynnhaven oyster. A diatom answering the same description as the *Navicula ostrearia*, recognized as the cause of the greening of Marennes oysters, has been identified wherever green oysters are found in the Chesapeake. The frustules of the diatom have also been obtained from the intestines of the green oysters in this observation, exactly as Lankester noted in his study of the Marennes oyster. Again, this investigation agrees thoroughly with the conclusions of several European workers that the pigmentation of the gill can occur by allowing the oyster to remain in sea water in which *Navicula ostrearia* is present, but that there is no coloration if the *Navicula* is absent. There is no evidence that the coloration of the gills of Chesapeake Bay green oysters is due to bacteria. Thus both economic and sanitary considerations are satisfied by the explanation furnished by the biologists of the Bureau of Fisheries.

1. Lankester, E. R.: On Green Oysters, Quart. Jour. Microscopical Sc., 1866, **24**, 71. Herdman, W. A.: Oysters and Disease: An Account of Certain Observations on the Normal and Pathological Histology and Bacteriology of the Oyster and Other Shellfish, Lancashire Sea-Fisheries Memoir No. 1, London, 1899.

2. Mitchell, P. H., and Barney, R. L.: The Occurrence in Virginia of Green-Gilled Oysters Similar to Those of Marennes, Bull. Bureau of Fisheries, 1915-1916, **35**, 137.

EMOTIONAL STATES AND THE SUPRARENAL SECRETION

There has been a tendency in the past few years to assign functions of unexpected or unanticipated importance to the suprarenal glands. Through the medium of the epinephrin that they secrete, these structures are assumed to reinforce the action of the sympathetic nervous system. Introduction of epinephrin into the body has long been known to produce hyperglycemia, which is nearly always accompanied by glycosuria. In connection with this fact, the opinion has been ventured that some or perhaps most of the familiar forms of experimental hyperglycemia are dependent primarily on excitation of the suprarenal glands to increased secretion of epinephrin, which then causes an accelerated mobilization of sugar in the same way that epinephrin does when artificially introduced. As evidence that the suprarenals intervene in the production of such phenomena as the glycosurias following asphyxia, anesthesia, etc., it is contended that they cannot be obtained after removal of the glands. It has even been stated that after suprarenalectomy the normal sugar content of the blood is not maintained. Finally, since sugar is an important source of energy in muscular contraction, it has been contended that a tendency to hyperglycemia may accompany fright, anger and other emotional states that are likely to lead to augmented activity. Thus the alleged discharge of epinephrin into the circulation is made an important factor in the response to environmental stress, enabling the individual affected to "react for the preservation of its life either by offense or flight."

The chain of sequences formed by emotion, discharge of epinephrin, mobilization of carbohydrate, and increased muscular efficiency represents a formidable physiologic phenomenon. Of late there have been signs from several quarters that the importance thus assigned to the suprarenals is exaggerated, if not

unproved.[1] A serious blow has been dealt to this structure of hypotheses regarding suprarenal function by the critical observations of Stewart and Rogoff[2] of the Laboratory of Experimental Medicine at the Western Reserve University. Starting with the fact, demonstrated by them, that the liberation of epinephrin can be practically abolished or reduced to an insignificant fraction of its normal amount by dividing the nerve supply of one suprarenal and excising the other gland, these investigators have studied the effect of experimental procedures supposed to depend on suprarenal contributions for the genesis of hyperglycemia. They have found that the hyperglycemia associated with asphyxia and ether anesthesia is obtained in animals that have undergone the suprarenal operation described, even when no detectable residual liberation of epinephrin is present. No essential difference could be made out in this regard between these animals and control normal animals. From these results, we admit with the Cleveland experimenters, it seems impossible to draw any other conclusion than that the hyperglycemia associated with asphyxia and with etherization is not produced through the intervention of epinephrin liberated from the suprarenal glands, or at least that the liberation of epinephrin is not essential to the production of the hyperglycemia. Accordingly, the mobilization of sugar, of which these experimental hyperglycemias are the expression, is not mediated through the epinephrin secretion of the suprarenals.

Nor is this the only feature of the widely quoted hypothesis relating the suprarenals to emotional states that has been brought seriously into question. Stewart and Rogoff have directly attacked the problem of the so-called emotional hyperglycemia for which the suprarenals have also been held responsible. Their experiments do not reveal any essential difference between the results of emotional excitement in normal animals and in animals that have survived the procedure already described. The investigators do not assert that their observations disprove the existence of a true emotional hyperglycemia; but they do suggest that if it exists it is a rather infrequent phenomenon, not to be elicited at will as the asphyxia hyperglycemia can be elicited, and so insignificant in amount that numerous observations would be necessary to disentangle it from the uncontrollable variations in the sugar content. But if so-called emotional hyperglycemia is an uncommon phenomenon or maybe a myth, and if emotional excitement does not actually lead to an increased output of epinephrin from the suprarenals, what becomes of the beautiful theories built on this crumbling superstructure?

1. Is Epinephrin Indispensable for the Organism? editorial, THE JOURNAL A. M. A., July 7, 1917, p. 40; The Suprarenals and Shock, Sept. 1, 1917, p. 729; Pituitary Functions, Nov. 17, 1917, p. 1697.

2. Stewart, G. N., and Rogoff, J. M.: The Alleged Relation of the Epinephrin Secretion of the Adrenals to Certain Experimental Hyperglycemias, Am. Jour. Physiol., 1917, 44, 543.

Current Comment

UNIVERSAL MILITARY TRAINING VERSUS PHYSICAL TRAINING

From the purely sanitary point of view, the physical development of the youth of this country is a matter of extreme importance. For that reason, physical training naturally has many strong advocates. Unfortunately, physical training has not been universally required, and has not produced anything like the remarkable physical development seen in the various military training camps since the opening of the world war. Heretofore it has lacked that "touch of elbow" which comes only from military training. It lacked that indescribable something — esprit, courage, discipline, patriotism, respect for the obligations of citizenship — which is essential in any state, and particularly in a democracy. Again, the very requirement that all young men alike at a certain time shall don the uniform of the United States will do more to engender patriotic sentiments and to call their attention to their duties to the nation than can result from any other method. Such training can readily be made to emphasize the things for which a democracy stands, and is one of the best means of amalgamating the various nationalities that make up the citizenship of this country. Incidentally, since universal military training is for the young men, some parallel training might also be provided for the young women.

OUR ARCHAIC PATENT LAWS

In this issue we publish two reports of the Council on Pharmacy and Chemistry which illustrate the weaknesses of the present working of the United States patent laws. In the first report the Council presents an investigation of a recently granted patent, and shows that the patent was issued on the mere claims of the applicant and without the presentation of any evidence for such claims. The second report —"Need for Patent Law Revision"— is an appeal to the Patent Office for a more enlightened administration of the patent law, and it presents a few illustrations of the unfair protection which has been granted by the Patent Office. The protest of the Council appears at an opportune time. In *Science*[1] the "Patent Office Society," an association of employees of the U. S. Patent Office, announces that a committee has been created on request of the National Research Council to make a study of the U. S. Patent Office and its service to science and to arts. It states that this committee will meet in Washington shortly to consider the adequacy of the present Patent Office equipment and the simplification of procedure as well as responsiveness to present national and international requirements. The committee also hopes to coordinate, in the interest of an improved public service, the endeavors of the various national societies, manufacturing interests, patent bar associations and all others aiming at genuine patent reform. Unquestionably, there is a growing conviction that in the case of medicines the monopoly given by the patent laws, if granted at all, should be

1. Dec. 28, 1917, p. 629.

granted with a greater consideration of the public welfare. Too often the United States Patent Law has been used to obtain an unfair monopoly on a medicament or to abet quackery. There is no question that one of two things is needed: either a radical change in the patent law itself or the application of more brains in its administration.

THE USE OF THE FACE MASK AND OTHER PRECAUTIONS AGAINST PNEUMONIA AND OTHER DISEASES SPREAD BY NASOPHARYNGEAL SECRETIONS

The nasopharynx is the portal of entrance into, as well as exit from the body, of the germs of many important acute diseases. Diphtheria, scarlet fever, measles, epidemic meningitis, poliomyelitis and pneumonia are all spread by nasopharyngeal secretions, and are sometimes called "sputum-borne" diseases. These diseases are spread in this way not only by patients in the acute stages of the disease but also by carriers who harbor the germs in the nasopharynx for a longer or shorter time. Persons coming in close contact with such patients or carriers may take up the germ-laden droplets or nasal discharges, running the risk of falling sick, and whether stricken or not, of handing the germs on to others, perhaps more susceptible. In view of these considerations, the precautions, including the use of a simple protective face mask, recommended by Weaver[1] in this issue, should be adopted and conscientiously enforced, not only in hospitals, but also generally, since every case of sputum-borne infection is a potential source of new cases, and even an endless chain of new cases. The evidence presented by Weaver of the efficiency of the precautions which he describes for nurses and physicians is quite convincing — that is, there was less infectious disease in the nurses, and less cross infection in the patients. In other words, the spread of sputum-borne diseases was lessened. This was, of course, to have been expected because the measures described necessarily lessen the chance of infection for these diseases. The precautions used against diphtheria, measles, scarlet fever, epidemic meningitis and poliomyelitis are also recommended for pneumonia because this is as much a sputum-borne disease as any. No physician familiar with the dangers of infectious nasopharyngeal secretions in pneumonia and the other diseases mentioned will care to run the risk of omitting any precautionary measure that obviously tends to lessen the danger for the attendant and to diminish the chances of spreading the infection by carriers. For this reason the advisability of wearing face masks by medical officers, nurses and noncommissioned medical attendants in base hospitals and isolation camps in large cantonments is worthy of careful consideration. The measure is so simple, and at the same time appears to be so thoroughly efficient, that the question arises whether the Medical Department should not make the use of this simple measure obligatory on the part of those in direct contact with the diseases mentioned. Personally, those tending the sick may feel that they are not susceptible to such diseases as measles, diphtheria, scarlet fever and similar infections — that is, those likely to attack children — but will they care to take any chances with pneumonia?

1. Weaver, George H.: The Value of the Face Mask and Other Measures, The Journal A. M. A., this issue, p. 76.

REPORT OF THE SURGEON-GENERAL OF THE ARMY

The report of the Surgeon-General of the Army, an interesting document at any time, becomes especially important in war time. The report issued for 1917 covers the fiscal year ending June 30, 1917, and the calendar year 1916. It is the one hundredth consecutive report of the Surgeon-General, the first having been compiled in the year 1818. Special emphasis is placed on the excellent work accomplished by medical officers of the Regular Army in connection with the expedition into Mexico and the mobilization of the Army and National Guard on the border in 1916. A short statement is made as to the work of the Medical Department in the present war. The details of this important work will, of course, be properly the subject of future reports; but as evidence of the unprecedented extension of the activities of the medical department it is stated that more than 13,900 officers were engaged in the work of the Army Medical Department on June 30, 1917. The total number of hospital beds is to be placed on a basis of 25 per cent. of the strength of the Army. The general health conditions of the United States Army for the calendar year 1916 were very satisfactory. Special attention is given to typhoid fever, paratyphoid, malarial fever, measles and venereal diseases; also to hookworm, lobar pneumonia and cardiovascular disease. The Army Medical School and the Surgeon-General's Library have functionated with the greatest efficiency. In the Mexican expedition the service of the Medical Department was thoroughly capable, as also in the mobilization on the border. Most of the extensive report is given over to special reports of the various departments of the Army, and of the various posts, the health of the troops, etc. The bibliography of articles written by medical officers from July 1, 1916, to June 30, 1917, indicates that as usual splendid research work is being done by Army men. A separate statement lists the articles by medical officers of the Army detailed as medical military observers abroad, but these reports are not yet available.

CHILD LABOR IN WARRING COUNTRIES

"Protect labor if you would conserve the health of the nation" is one of the important messages that comes to this country from the depths of Europe's bitter experience. The early part of the war witnessed a breakdown of the safeguards to labor, especially to the labor of women and children, in practically every belligerent country, as well as in the neutral countries of Holland and Switzerland. So appalling have been the consequences of this policy to the health of the workers, that already the governments of England, France and Italy have taken steps to restore the pro-

tective provisions of their labor laws. New Zealand, the Canadian provinces and Australia are the only countries that have sturdily refused to lower the standards of their school attendance and child labor laws. On the contrary, such states as Manitoba and Australian Victoria have shortened the legal period of overtime since the beginning of the war. In a pamphlet on child labor in warring countries,[1] issued by the federal Children's Bureau, these facts are freely discussed, together with kindred labor conditions in Austria-Hungary, France, Germany, Great Britain, Greece, Italy, the Netherlands, Russia and Switzerland. Attention is called to the fact that the relaxation of labor standards has proceeded along three lines: 1. The hours of work have been lengthened to include night work, Sunday work and more or less overtime. 2. The age limit for children entering industry has been lowered. 3. Women and boys and girls have been employed in dangerous and heavy work in which their presence was formerly prohibited by law. As an example of the last abuse, the report cites the war legislation of Germany and Russia, where women and young persons are permitted to work underground in the coal mines. Facts are presented to show that, in most of the belligerent countries, employers have not only worked women and children beyond the pace demanded by the exigencies of war, but also in many cases, have ruthlessly exploited them for profit. Government interference was necessary, therefore, in order to check the widespread and alarming deterioration in the workers' health. These observations should prevent the United States from repeating the disastrous mistake made by the European nations.

1. Rochester, Anna: Child Labor in Warring Countries, Pub. 27, Industrial Series 4, Children's Bureau, Department of Labor, Washington, Government Printing Office, 1917.

The Endemic Index.—Massachusetts, which has a decentralized form of health organization, has a system of arriving at and coping with epidemics of disease in any community, one of the features of which is an endemic index. The essentials of a satisfactory control of the communicable diseases are a satisfactory system of morbidity reports and a standard by which to judge the variation in the prevalence of any disease. The system of reporting diseases in Massachusetts, as set forth in *Public Health Reports* (Dec. 14, 1917), by State Epidemiologist Walter H. Brown, is as follows: The state department of health fixes the list of reportable diseases. Physicians and householders must report such diseases by postal card to the local authorities, and each twenty-four hours these local authorities report to the state board of health and to the state district health officer. The health administrator is furnished with a sensitive indicator of the prevalence of communicable diseases by the endemic index, which is constructed as follows: All reported cases of a given disease for a given month for the preceding five years are tabulated on sheets. These sheets indicate when an epidemic has occurred, and the total reports of cases of this epidemic are excluded from the tabulation. The remaining figures are totaled and represent the endemic occurrence of the disease, the average being the so-called endemic index. In the application of the system a card has been devised for each city and town in the state showing for each disease the daily incidence, the monthly incidence for the corresponding month of the previous year, a monthly endemic index for each disease, and a weekly and a monthly total of deaths from all diseases. As soon as any disease in any city exceeds the endemic index, the card is sent to the administrator, who at once takes the proper administrative action.

Medical Mobilization and the War

"We entered this war because violations of right had occurred which touched us to the quick and made the life of our own people impossible unless they were corrected and the world secured once for all against their recurrence. What we demand in this war, therefore, is nothing peculiar to ourselves.

"It is that the world be made fit and safe to live in; and particularly that it be made safe for every peace-loving nation which, like our own, wishes to live its own life, determine its own institutions, be assured of justice and fair dealing by the other peoples of the world as against force and selfish aggression.

"All the peoples of the world are in effect partners in this interest, and for our own part we see very clearly that unless justice be done to others it will not be done to us."—The President's Address to Congress, Jan. 8, 1918.

HOSPITAL TRAIN STARTS FOR FRANCE

The first of six American hospital trains, which are being built in England, for service in France, started from London for American headquarters, December 31. The train consists of sixteen cars, and was built in less than eleven weeks, at the carshops of the Midland Railway at Derby.

COLONEL GOODWIN RETURNS TO GREAT BRITAIN

Col. T. H. Goodwin, who since last May has been in the Surgeon-General's Office in Washington, representing the British Medical Service in this country, has returned to England. During the eight months he was here, Colonel Goodwin visited medical officers' training camps and addressed medical and other society meetings in various parts of the country; thus he had become personally known to a large number of physicians. A delightful personality, an earnest, forceful speaker—one who could speak from actual experience as an army surgeon at the front—a gentleman in the best meaning of the term, Colonel Goodwin's departure will be regretted by all who knew him or who had met him. He will be succeeded by Lieut.-Col. C. K. Morgan, C. M. G.

COUNTRY BOYS NOT PHYSICALLY SUPERIOR TO CITY BOYS

In order to determine whether the average of physical soundness is higher among country boys than among city boys, the following comparison was made: Selection was made of a typical set of cities of 40,000 to 500,000 population, with no large immigrant element, and distributed over ten different states (Alabama, Arkansas, California, Colorado, Kansas, Montana, Nebraska, New York and South Carolina), and a corresponding set of counties of the same total size, located in the same states and containing no city of 30,000 population, the total number of registrants in the two areas being 315,000. The result of the comparison was as follows: Of 35,017 registrants in urban areas, 9,969 were rejected; of 44,462 registrants in rural areas, 12,432 were rejected, or 28.47 per cent. of city boys and 27.96 per cent. of country boys. The result, therefore, was practically a tie, showing that the country boy does not possess a greater degree of the physical soundness necessary for his acceptance as a soldier.

NEWS OF THE BASE HOSPITALS

Base Hospital Unit No. 13, the Presbyterian Hospital, Chicago, under the command of Lieut.-Col. Chandler Robbins, M. C., U. S. Army, and directed by Major Dean D. Lewis, has been ordered to mobilize and is awaiting orders for departure.

Base Hospital Unit No. 26, the University of Minnesota, has been ordered to Fort McPherson, Ga., and left, December 28, for the place. This unit is commanded by Col. Joseph H. Ford, M. C., U. S. Army, and Major Arthur A. Law, Minneapolis, as the director.

Base Hospital Unit No. 34, Episcopal Hospital, Philadelphia, headed by Major Astley P. C. Ashhurst, M. R. C., has reached France safely. This unit includes twenty-four physicians, sixty-five nurses and 150 enlisted men. It is equipped with four automobile ambulances and two motor trucks.

Base Hospital Unit No. 37, King's County, Brooklyn, organized by Major Edwin H. Fisk, M. R. C., Brooklyn, and under the command of Col. Basil H. Dutcher, M. C., U. S. Army, was ordered to mobilize at the Twenty-Third Regiment Armory, Brooklyn, January 4.

REGULATIONS FOR ARMY NURSE CORPS MODIFIED

The immediate need of nurses for the United States Army, both for assignment to duty and for reserve, is very urgent. It is necessary to increase the enrollment nearly 1,000 per cent. to procure the 37,500 nurses needed for an army of 1,500,000. The present strength of the Army Nurse Corps is but 4,000. Two hundred and ninety nurses are still needed to bring the quotas of nurses in the hospitals at the cantonments up to the necessary minimum of 65 nurses to each hospital. The United States Army is therefore appealing to every one of the 80,000 registered and 200,000 graduate and practical nurses in the United States to volunteer their services.

ACTIVE RESERVES

As soon as the immediate need of cantonment hospitals has been cared for, a reserve of 100 nurses will be organized for emergency service in the United States. The Lakewood Hospital at Lakewood, N. J., has been leased by the government for use as a general hospital and provisions are to be made for housing nurses there.

MODIFICATIONS OF REQUIREMENTS

The following modifications in the requirements governing the admission of nurses to the Army Corps are announced to be in force for the period of the war: Although registered nurses are preferred, registration may be waived, and all graduate nurses who are professionally, physically, and morally qualified for service will be given consideration; the age limits which have heretofore been from 25 to 35 have been widened to include the ages between 21 and 45; nurses who have graduated from hospitals of less than 100 beds will be eligible for appointment; those already possessing white uniforms need not purchase new ones, but if new ones must be obtained, these should conform to Army specifications; not only nurses who are citizens of the United States, but those who are citizens of any of the countries of our allies, are eligible for the Army Corps; appointment may be made for three years or for the period of the war emergency only; a nurse need not be a member of the Red Cross Nurse Service.

A nurse traveling under orders is given a first-class ticket, Pullman car accommodations included, and is reimbursed for incidental traveling expenses, not to exceed $4.50 per day, for meals and tips.

Requests for information, applications and enrollment should be made to the Surgeon-General, U. S. Army—attention of Superintendent, Army Nurse Corps, Mills Building, Washington, D. C., or to the Director, American Red Cross Nurse Service, Washington, D. C.

ZONE SANITATION FOR CAMP SHELBY

In *Public Health Reports*, Dec. 21, 1917, Passed Asst. Surg. J. A. Watkins gives an account of the establishment and organization of zone sanitation in the region about Camp Shelby, near Hattiesburg, Miss. The area of the extracantonment zone comprises fourteen of the southernmost counties of the state with an estimated population of 239,000. For administrative purposes this area is divided into three zones. The first comprises an area surrounding the camp site not less than 1 mile wide at any point; the second, an area surrounding the first of approximately 20 miles, and the third, the remainder of the area of the counties included in the zone. The activities of the zone organization in the third zone include sanitary regulation of production and shipment into Zone 1 of all food products, the prevalence of disease, and cooperation with the health officers of the area. The activities in Zone 2 are the same as those in Zone 3, but closer attention is given to all matters, especially with reference to communicable diseases, surveys being made of all communities in the area as far as relates to the health of the troops, information of which is communicated to the military authorities. In Zone 1, every branch of health activity is being prosecuted intensively. The sanitary conditions of the whole area and the health organizations, including those of the city of Hattiesburg, the largest town in the area, were in a very backward condition, and improvement involved an immense amount of work, including the reorganization of health departments, the amendment of health ordinances, and the obtaining of increased appropriations, the cooperation of the people of all the communities, as well as of the established health organizations, being obtained after a campaign of education. Much of this work, of course, centered about Hattiesburg, where, among the things requiring attention, were the disposal of human excreta, milk and meat problems, the handling of foodstuffs, the manufacture of ice cream and other milk products, soft drink bottling, garbage disposition, water supply, health organization, the reporting of diseases, and special sanitary problems, such as the establishment of civilian labor camps, the strain placed on public utilities on account of the great influx of people into communities not prepared to receive them, the scarcity of labor and materials, etc. The report says that not the least of the problems to be solved was the lack of a general public sentiment in favor of better health conditions, and the absence of knowledge on the part of the community as to the necessity for the acquisition and maintenance of a rigid control and for the adoption of measures for the prevention of the spread of communicable diseases. Malaria presented a distinct and formidable problem, as conditions throughout the whole area, including that close to the camp site, were extremely favorable to the propagation of malaria, which was present. In Forrest County, the location of the camp and of Hattiesburg, the case rate for malaria in 1914, 1915 and 1916 was respectively, 81.90, 101.85 and 99.049 per thousand of population. The report of the engineer of the Public Health Service on the location and establishment of the camp was that "the situation is serious. . . . The topography of the zone is such as to offer abundant opportunity for the breeding of mosquitoes." *Anopheles* was found in abundance. The work involved tremendous labor in draining, filling and oiling breeding areas. Over 60 miles of ditches were dug, and more than fifty swamps of various sizes were drained. The sanitary work of the zones includes, of course, many other subjects, not the least of which is the control of venereal diseases. All of these subjects have received proper consideration, and with the aroused cooperation of the local authorities and the people, good sanitary order is being brought about.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

Extracts from Telegraphic Reports Received in the Office of the Surgeon-General for the Week Ending Dec. 28, 1917

1. Annual admission rate per 1,000 all troops in U. S. (disease only) 1,280.4
   Noneffective rate per 1,000 on day of report 39.2
2. National Guard Camps—
   Admission rate per 1,000 all divisions (disease only) 1,247.8
   Noneffective rate per 1,000 on day of report 46.6
   Divisions showing admission rate for disease higher than average: Camps Wheeler, Doniphan, Beauregard, Cody, Shelby and Kearny.
   Divisions showing noneffective rates higher than average: Camps Wheeler, Beauregard, Kearny, Shelby, Doniphan, Bowie, Cody and MacArthur.
3. National Army Camps—
   Annual admission rate per 1,000 all divisions (disease only) 1,465.8
   Noneffective rate per 1,000 on day of report (all divisions).. 41.2
   Divisions showing admission rate for disease higher than average: Camps Travis, Pike, Funston, Lee, Dodge and Zachary Taylor.
   Divisions showing noneffective rate higher than average: Camps Funston, Pike, Lee, Travis, Zachary Taylor, Dodge, Lewis and Jackson.
4. Venereal Diseases—
   Annual admission rate Regulars in United States..... 82.3
   Annual admission rate National Guard (Divisions in U. S.).. 43.8
   Annual admission rate National Army (Divisions in U. S.) 67.1
   National Guard Divisions having rate above average: Camps Wadsworth, Logan, Wheeler, Doniphan, MacArthur and Cody.
   National Army Divisions having rate above average: Camps Pike, Dodge and Jackson.
5. Number of cases of pneumonia 693
   Highest number in any one Division (34th) 78
   Number of cases of meningitis 98
   Highest number in any one Division (81st) 30

6. NEW CASES OF SPECIAL DISEASES REPORTED DURING THE WEEK ENDING DEC. 28, 1917

Divisions	Pneumonia	Dysentery	Malaria	Venereal	Paratyphoid	Typhoid	Measles	Meningitis	Scarlet fever	Deaths	Non-effectives carried on last day of report
27th, Wadsworth	12	...	...	70	..	..	...	..	..	1	32.4
28th, Hancock	3	...	...	18	..	..	20	1	..	0	72.0
29th, McClellan	13	...	...	16	..	..	20	1	..	4	30.1
30th, Sevier	12	...	1	2	..	..	10	1	..	3	26.8
31st, Wheeler	30	...	3	25	..	..	2	1	..	15	81.8
32d, MacArthur	8	...	...	31	..	..	41	1	30	0	46.3
33d, Logan	3	...	...	51	..	..	64	2	..	0	37.0
34th, Cody	78	...	...	18	..	..	47	..	1	11	52.3
35th, Doniphan	20	...	...	26	..	..	228	12	2	4	58.1
36th, Bowie	53	...	1	19	..	..	2	3	..	15	54.3
37th, Sheridan	4	...	...	4	..	..	15	..	..	2	17.5
38th, Shelby	20	1	2	16	..	..	11	..	..	13	58.3
39th, Beauregard	17	...	3	11	..	..	1	7	..	18	81.0
40th, Kearny	29	...	...	1	..	..	122	2	21	17	73.8
76th, Devens	6	...	...	17	..	..	38	1	1	0	26.9
77th, Upton	7	...	...	7	..	..	2	..	1	0	19.4
78th, Dix	...	...	...	...	..	..	...	..	..	2	29.0
79th, Meade	5	...	...	21	..	1	50	3	..	0	21.9
80th, Lee	18	...	1	39	..	..	123	1	..	4	56.8
81st, Jackson	6	1	1	33	..	..	25	30	..	17	67.3
82d, Gordon	26	...	...	13	..	..	140	5	..	6	36.2
83d, Sherman	4	...	...	16	..	..	22	..	2	2	27.5
84th, Taylor	23	...	...	13	..	..	16	..	..	9	55.2
85th, Custer	1	...	...	5	..	..	22	1	..	0	21.8
86th, Grant	6	...	...	12	..	..	19	..	..	0	20.8
87th, Pike	67	...	...	253	..	..	504	3	25	33	64.8
88th, Dodge	10	...	...	43	..	..	48	2	4	3	48.4
89th, Funston	6	...	...	9	..	..	325	3	..	12	72.4
90th, Travis	63	...	...	25	..	..	81	9	..	13	55.7
91st, Lewis	1	...	...	28	..	..	248*	1	27	1	48.5

* German measles.

7. ANNUAL RATE PER THOUSAND FOR SPECIAL DISEASES

	Regulars, U. S. Army, in U. S. only, 1916*	Regulars in U. S., Week Ending Dec. 28, 1917	National Guard, All Camps, Week Ending Dec. 28, 1917	National Army, All Camps, Week Ending Dec. 28, 1917	American Expeditionary Forces, Week Ending Dec. 28, 1917
Pneumonia	2.59	14.4	47.1	33.0	21.4
Dysentery	3.97	0.0	0.1	0.1	1.6
Malaria	12.52	0.0	1.7	0.2	0.0
Venereal	91.22	82.3	43.8	67.1	74.8
Paratyphoid	0.31	0.0	0.0	0.0	0.0
Typhoid	0.21	0.5	0.0	0.1	0.3
Measles	20.28	68.5	81.5	190.5	42.9
Meningitis	0.79	1.1	4.4	7.4	5.0
Scarlet fever	0.59	2.2	6.2	7.5	6.7

* Enlisted men only, both white and colored.

NEWS OF THE CANTONMENTS

Twenty-Eighth Division, Camp Hancock, Augusta, Ga.

DEC. 29, 1917.

It has been found that some patients with epidemic cerebro-spinal meningitis do well on a particular strain of injected organism and others on a different preparation, but it is difficult to cultivate the strains.

Captain Stone, division gas instructor, is scheduled to give an address on "The History of the Prostitute" the second Friday evening of January at a meeting of the surgeons of the division, to which are invited as guests the members of the Richmond County Medical Society and surgeons of the base hospital.

A field day has been planned at which the hospital corps men of the various units will compete in litter drill and first aid contests.

PERSONAL

Announcement is made of the birth of a son to Dr. and Mrs. George J. Jacquin.——Dr. George M. Laws recently left the base hospital to join the University of Pennsylvania Unit.——Dr. Parkinson has just returned from an interesting course at the Rockefeller Institute.

Thirty-First Division, Camp Wheeler, Macon, Ga.

JAN. 5, 1918.

The pneumonia epidemic at Camp Wheeler is at an end. A few cases come in and will probably continue to come throughout the winter. It is an interesting fact that there were three times as many cases proportionately among the Florida troops as among those from Alabama and Georgia. Furthermore, there were ten times as many among those of less than eight months' service as among those of over eight months' service. Almost 50 per cent. of all cases followed measles, and in these, almost 30 per cent. of the patients died.

The measles epidemic came to an end before the pneumonia. There is now a case every few days. Three thousand cases made up the total.

MUMPS

Mumps is the principal disease of the camp at present. On some days there are more than 100 admissions, and between 600 and 700 cases are in the hospital. What the grand total will be cannot be estimated. It now appears that there are more men not immune to mumps than there were not immune to measles. There is general opinion that if all the draft men could have been put in camp during the summer and allowed to have measles when there was no danger of pneumonia complications, such a course would have saved many lives in this camp.

With the arrival of ample warm clothing, tents and equipment generally, and the greatly improved conditions of sanitation and health, it is hoped that the ban on the arrival of new men at the camp will soon be removed, so that the division may be filled up to war strength. It is evident that we cannot go until it is filled up. It is the general desire of officers and men to go to the scene of actual conflict at the earliest possible date.

A few scattering cases of meningitis are found—about one each week. No case has yet been traced to any other case, although the disease has been confined to three regiments. All throats are being examined for infection in the regiments affected.

The medical officers of the Seventh Division, which follows us, are beginning to arrive in this camp, together with other detachments of that division.

The announcement that a lieutenant-colonel would be authorized to command the sanitary train has caused not a little commotion among certain majors, who would not put aside the proffered crown.

BASE HOSPITAL

The number of patients in the base hospital has been reduced considerably, and a number of nurses and medical officers there are being relieved.

ONE HUNDRED AND SIXTH SANITARY TRAIN

With the coming of the new year and a letting up on the demands on the train for details and transportation, it is hoped that a marked advance will be made in the technical training of both the ambulance and field hospital sections.

Major George F. Keenan has returned from his ten day leave of absence, spent in Boston.

Ambulance Company No. 123 has relieved Ambulance Company No. 121 on the divisional ambulance service for the month of January. Field Hospital No. 123 has relieved Field Hospital No. 122 in the management of the dispensary of the One Hundred and Sixth Sanitary Train.

Capt. Fred W. Boyd, commanding Ambulance Company No. 124, is departing on a ten day's leave of absence, and it is strongly rumored that he will come back to us a full-fledged benedick.

Lieut. Joseph B. Penniston has been transferred to Field Hospital No. 123. Lieut. William J. Stewart of this company has been transferred to Ambulance Company No. 122. This leaves the train with only four vacancies in the commissioned personnel.

As only twenty-four hour Christmas passes were issued in this division, quite a number of men decided that they needed more time at home and remained A. W. O. L. It is pleasing to note that in the published order showing the A. W. O. L.'s in each organization, the One Hundred and Sixth Sanitary Train was lowest in the division, there being only five A. W. O. L.'s in the ambulance section and none in the hospital section.

Thirty-Third Division, Camp Logan, Houston, Texas

DEC. 28, 1917.

Camp Logan, in which the Illinois contingent of the federalized National Guard is encamped, is exceeded in size by only three or four of the thirty-two great training camps.

We have been fortunate in our situation so far as the cold weather is concerned. Our lowest temperature thus far has

been 24 F., and we have seen frost only three or four times. Before our stoves were put up we suffered from the cold in a mild way, but have been fairly comfortable since.

PERSONAL

Our division surgeon is Lieut.-Col. L. M. Hathaway, and the commanding officer of our base hospital, Major J. M. Willis, both of the Medical Corps of the Regular Army. Most of the other medical officers belong to the Medical Reserve Corps and Medical Corps of the National Guard.——Major Gustavus M. Bloch has been giving the medical officers a most interesting and practical course of instruction on military map making.——Capt. Robert J. Gay has been recently promoted to the rank of major, taking the place in the One Hundred and Twenty-Second Field Artillery made vacant by the transfer of Major Harry D. Orr to the position of director of ambulance companies of the division.——On the resignation of Major William J. Swift, director of field hospitals, Major E. G. Clancy, commander of the Second Field Hospital, has succeeded to his position.——We have at least three marriages to note among our younger medical officers, Lieuts. Claude Weldy, Norman Zolla and W. L. Blomgren being the fortunate ones.

BASE HOSPITAL

In our base hospital we have about 900 patients, with only a small percentage of serious cases. We have so far escaped any notable outbreaks of pneumonia, measles or cerebrospinal meningitis, which have been so frequently noted at some of the southern camps.

One of the most interesting activities is the Camp Logan Medical Society, organized as soon as the medical men began to gather, by the commanding officer of the base hospital, Major J. M. Mills. The society meets at the hospital weekly, and a great many interesting clinical cases are presented with the usual society program.

CAUSES FOR REJECTION

From a scientific standpoint, the most interesting study in the camp has been that of the causes for the rejection of soldiers sent before the surgeon's certificate of disability board (S. C. D. Board) to determine their fitness or otherwise for service. One of the important duties on the organization of any military force is the weeding out of the unfits. For months our board, consisting of Major John H. Blackburn, chief of surgical service; Major J. N. Hall, chief of medical service, and Lieut. T. R. Knowles, surgical service, base hospital, has met daily. The regular current of disabilities has been reinforced at certain intervals by waves of some certain type, as the candidates broke down in their training.

First of such waves came the asthmatics. With the vigorous exercise of the training and the inhalation of the dust inevitable in the new camps in a dry season, these men contracted a bronchitis, generally with the classical signs of the affection, and shortly asthmatic attacks supervened. A family history of the disease was generally obtainable. These men were of no value in the service.

Next the cardiac group appeared, and in fairly regular sequence. The boys with well marked aortic regurgitation broke at once, and the trouble was so obvious that they were sent in promptly. Almost as soon came those suffering with advanced mitral stenosis. I had never before seen a clinic in which this valvular affection was encountered more frequently than mitral regurgitation. The latter is more generally recognized by its physical signs, by the profession everywhere, and obviously the men more seriously affected were thrown out before enlistment. After some weeks, as the heart "broke" under the strain, the decompensated cases came before us.

When target shooting began we saw a wave of men with defective vision, and with the bayonet practice, jumping, etc., another of hernia. At this time flatfoot, hammer toes and other foot troubles were at the height of their run. Flatfoot is said to occur in from 5 to 10 per cent. of the men in all armies, being most common in the people of Central Europe, where the 10 per cent. figure is accepted. It is certainly a trial to the army surgeon.

Our present worry is with the cases of hyperthyroidism, of which we see several in a day. It seems that violent exercise must bring out the latent cases or else that this trouble is especially common in the men of Illinois. A comparison with figures from other cantonments will be most interesting. Lieut. J. H. Brown, our cardiovascular referee, is anxiously awaiting an opportunity to see what such a comparison will reveal

Defective hearing has been one of the most frequent causes for dismissal, especially in association with suppurative otitis media. The number of cases of fracture with deformity, notably at the elbow, and synovitis of the knee, has been a source of surprise to us.

In the main we have a fine body of men in the camp, and the proportion of rejected will not be extremely unfavorable.

Eighty-Third Division, Camp Sherman, Chillicothe, Ohio

DEC. 31, 1917.

On Friday, December 7, the blizzard set in at Camp Sherman with a fall of snow of about 10 inches and a drop in temperature to —15 F. The succeeding ten days found the mercury level moving between —15 and 20 F. Following this weather change there has been an increase of diseases of the respiratory tract. To date there have been fifty-two cases of pneumonia, thirty cases of measles and thirteen cases of epidemic meningitis.

A comparison of the noneffective rate from all causes in different groups of Army camps and Camp Sherman is most interesting: National Guard camps, 43.9; all camps, 37.4; National Army camps, 32.5; Camp Sherman, 26.8. To date there have been twenty-two deaths. The noneffective rate from venereal disease is 36.

Among the soldiers returning from target practice at Camp Perry there were a few with frost-bitten fingers, ears and toes, but there was no serious damage from cold.

Among sanitary changes worthy of note is one that cooks and bakers and those handling food shall manicure their nails and keep their hands clean; another that men in barracks shall sleep with head and feet alternating with those in adjacent cots, thus permitting 5 foot intervals between heads; and lastly there shall be not less than 50 square feet of floor space for each man sleeping in barracks.

COMMUNITY CENTER

Responding to the efforts of Major General Gleen, the Ohio Red Cross, the Daughters of the American Revolution, the Young Women's Christian Association and the Commission on Training Camp Activities have made possible the building of a group of buildings to serve as a "community center." The center main building is in the form of a cross-shaped bungalow building 200 feet in length in the arms. The building faces a large open park or plaza looking toward the east. The low spread-out effect is relieved somewhat by a low central pyramidal tower. The broad veranda, carried three quarters of the way about the house, gives promise of comfort and sociability. The entrance in the east end of the cross opens into a foyer with the desk on the left and check rooms on the right. Opposite in the west end is a large fireplace and reading room, and conversation facilities. The south end has the dining room and the north has a stage, while the center has a high rotunda effect with galleries on three sides giving a view of the stage. To the north and east is the lodge built by the D. A. R., while directly to the north is the house built by the Masons of Ohio. To the southeast opposite the D. A. R. building, and facing northward across the intervening plaza, is the building erected by the Y. M. C. A. When completed, there will be accommodations for 700 guests. The rates will be very low.

Colonel Roosevelt, when visiting the camp recently, seemed greatly impressed, and expressed his admiration of the opportunities for the cultivation of the true democratic spirit in this beautiful and serviceable group of buildings.

At another central location is a large theater building with a seating capacity of 3,000.

PERSONAL

The most important social event of the season will be the marriage of the daughter of General Glenn, Miss Edwina Glenn, to Capt. James A. Garfield of the Artillery on New Year's eve.

Major Dudley DeV. Roberts has been relieved from duty at the base hospital and assigned to the Medical Service at the U. S. General Hospital No. 1, New York.

Major Roger Morris, having completed his duties here, has returned to Cincinnati to continue his duties there as professor of medicine in the medical school.

Dr. Alfred Friedlander has been commissioned as major in the Medical Reserve Corps and assigned as chief of the medical service.

Capt. Malcolm Douglas has been ordered to join the Red Cross Unit Base Hospital at Albany, N. Y., his home city.

The special board for examination of the command for cardiovascular and pulmonary diseases has completed more

than half its work. It has discovered only about 0.25 per cent. of pulmonary cases previously overlooked.

Among recent promotions are those from captains to majors: W. F. Marting, F. A. Rupp, R. S. Hooker, H. J. Repman, E. Van Camp and R. H. Halsey.

Eighty-Fourth Division, Camp Zachary Taylor, Louisville, Ky.

DEC. 31, 1917.

It has been surprising to find the frequency of empyema complicating pneumonias at Camp Zachary Taylor. So frequent has this been found at the base hospital that an exploratory paracentesis is done in all the pneumonias, as physical findings do not show the effusion in many cases. Rib resections have usually been done, and with high mortality.

CAMP SUPPLIES

This camp seems to be one of the few which is equipped with sufficient supplies for the last of the first quota, and these are expected here by January 15. The general staff states they have been notified to be ready at any time, though no definite date has been set.

MEDICAL SCHOOL

The School of Hygiene and Sanitation continues to hold its regular sessions, with about eighty-five medical officers constantly in attendance. A school has also been organized at the base hospital which it is hoped each medical officer may be able to attend.

Among the lectures given at Camp Taylor in the School for Hygiene and Sanitation were "The Army Ration, Cooking and Baking," and "Disposal of Liquid and Waste Products."

A compulsory course of lectures on venereal diseases has been carried on by Dr. Chenoweth for the drafted men. Three thousand men attended these lectures.

Orders have been issued, on recommendation of the division surgeon, that no furlough or pass be given any man who has any venereal infection. This will add materially toward stopping the spread of this scourge.

Colonel Allen reports that at Camp Zachary Taylor, there is no suffering from lack of supplies, food, clothing, heavy underwear or fuel. Men are universally taking on weight. One company, the Three Hundred and Thirty-Third Ambulance Company, of 120 men, has gained just 1 ton in weight since being in camp. The average gain of weight for men in camp is 10 to 20 pounds.

Measles have been found among the soldiers at the remount station, Three Hundred and Thirty-Third and Three Hundred and Ninth Infantry. These commands are in quarantine.

BASE HOSPITAL

At the base hospital the cubicle treatment will be applied in each of the general medical wards. Wires have been strung across the wards on which sheets will be hung between the beds of those suffering from communicable diseases. The sheets will not be used except in those wards in which cases are confined, capable of transmitting bacteria to their neighbor.

At the base hospital there are 933 cases; in the medical service of twenty-one wards, an average of thirty to the ward.

One case of varioloid has developed in a drafted man who was vaccinated two months ago. Within twenty-four hours every civilian about the camp was vaccinated, newspaper men, laborers, telephone workers and operators.

At the base hospital there are 52 cases of pneumonia, 3 new this week; 326 measles, 4 new; 24 cases mumps; 11 cases meningitis; 3 meningitis carriers; 17 erysipelas; 2 German measles; 1 typhoid fever case. There were two deaths from bronchopneumonia.

With 185 under treatment in quarters and 933 in the base hospital there is a grand total under treatment of 1,118 medical cases.

One hundred and three cases of venereal disease are at the base hospital; 9.19 per cent. of all sickness is venereal; venereal prophylaxis was given in thirty-six cases.

The percentage of sickness to the entire command is 4.54 total, 4.21 less wounds and injuries.

PERSONALS

Major Blair from the Surgeon-General's Office at Washington inspected the surgical department of the base hospital. ——Capt. John W. Price, M. R. C., is away on a furlough following his marriage, December 27, to Miss Barbara Atwood of Louisville.

Eighty-Ninth Division, Camp Funston, Fort Riley, Kan.

JAN. 1, 1918.

In previous letters, we have spoken of the isolation camp that has been instituted in this division. At first, whenever a case of measles, meningitis, mumps or scarlet fever broke out, the patient was promptly isolated, and the entire company was sent to the isolation camp. At this camp, they kept on with their regular routine work, and were carefully watched for the outbreak of fresh cases; and in the case of meningitis contacts, cultures were invariably made for carriers as well. This plan has not proved feasible. In its place a new plan has been instituted, which consists of sending only proved contacts to the camp and the two men who have been sleeping on either side of the patient. This plan has worked out satisfactorily, and is the one at present in use.

In addition to the isolation camp, a detention camp has been built, and all men returning to Camp Funston from their holiday vacations are to be kept there for a period of three weeks. This should aid in effectually preventing new cases of infectious disease from being carried into the camp by these men.

LAUNDRY

An extremely large government laundry has been built here, and is in operation. In it, all the laundry of the camp is cared for. It is run by civilian employees. A supposed case of smallpox among these employees caused quite a furor for a few hours, but it turned out to be only chickenpox. Since that time, all of these employees have been vaccinated against smallpox and paratyphoid and typhoid fevers.

PERSONAL

Lieut.-Col. Frank Weed, M. C., has been relieved as division sanitary inspector, and his place has been taken by Capt. Frank L. Morse, M. R. C., who came here from Washington. Colonel Weed will proceed to Washington for duty at once. ——The following promotions have occurred in the Medical Reserve Corps, Eighty-Ninth Division, since the last letter: From Lieutenant, M. R. C., to Captain, M. R. C., Albert G. Bower, William Chris Finoff, Theodore Henry Koefoot and Herbert Spencer Valentine.

ORDERS TO OFFICERS OF THE MEDICAL CORPS

To New York City, for instruction, and on completion *to his proper station*, Major CHARLES P. BRADY, Lieuts. CARL J. CUBBISON, HOMER E. HALFORTY, A. J. LOGIE.

To Philadelphia, Pa., for instruction, and on completion *to their proper stations*, Lieuts. JOSEPH J. FERNER, T. H. SNOWWHITE.

To New York City, for instruction, and on completion *to their proper stations*, Lieuts. ALFRED F. COMPTON, JOHN J. LYNCH.

To Camp Travis, Fort Sam Houston, Texas, *Camp Bowie*, Fort Worth, Texas, *Camp Sheldy*, Hattiesburg, Miss., *Camp Jackson*, Columbia, S. C., and such other places as may be necessary to inspect, and on completion *to his proper station*, Col. PERCY M. ASHBURN.

To Colfax, Iowa, to inspect properties offered as sites for hospitals, and on completion *to his proper station*, Lieut.-Col. ERNEST G. BINGHAM.

To Washington, D. C., and report in person to the Surgeon-General of the Army for consultation, and on completion *to his proper station*, Col. DAVID BAKER.

To Camp McClellan, Anniston, Ala., for duty as division surgeon, Major PAUL L. FREEMAN.

To Washington, D. C., for duty in the Surgeon-General's Office, Lieut.-Col. FRANK W. WEED.

To Camp Dodge, Des Moines, Iowa, for duty, Lieut. ARTHUR M. ALDEN.

To Camp Logan, Houston, Texas, base hospital, Major GEORGE A. CLOTFELTER.

To Asheville, N. C., to inspect a site for a tuberculosis hospital, and on completion *to his proper station*, Major EARL H. SPANS.

To Charleston, Columbia, S. C., Augusta, Ga., for duty in connection with the medical department of the Army, and on completion *to his proper station*, Col. WILILAM C. OWEN.

To Army Medical School, as instructor in bacteriology, Lieut. ERIC A. FENNELL.

To Daytona, Sebring, Tampa, Fla., for duty in connection with the medical department of the Army, and on completion *to his proper station*, Lieut.-Col. JOSEPH Y. PORTER, Major EDGAR KING.

To Lakewood, N. J., for duty, Major FELIX R. HILL.

To Camp Fremont, Palo Alto, Calif., for duty as division surgeon, Lieut.-Col. LLOYD L. SMITH.

To Washington, D. C., for duty in the Surgeon-General's Office, Major EDGAR C. JONES.

To Camp McArthur, Waco, Texas, for duty, Lieut. PLACIDO R. V. HOMMEL.

To Hoboken, N. J., to inspect Hospital Train No. 1, and on completion *to his proper station*, Major WILLIAM L. HART.

To Camp Lee, Petersburg, Va., for duty, Lieut. ARTHUR M. ALDEN.

To Ottawa, Canada, to inspect the Canadian hospital cars and trains, and on completion *to his proper station,* Major WILLIAM L. HART.

To Washington, D. C., and report in person to the Surgeon-General of the Army for consultation, and on completion *to Edgewood, Md.,* for duty in connection with the establishment of a hospital, Major GLENN K. JONES.

To Camp Beauregard, La., to be inducted into federal service and assigned to duty, Lieut. JOSEPH R. SMITH.

To Fort Rosecrans, Calif., for duty, Major SWIFT.

To Camp Sherman, Chillicothe, Ohio, to give instruction, and on completion *to his proper station,* Col. THOMAS H. GOODWIN.

To Fort Sill, Okla., for commanding U. S. Army General Hospital, Col. FRANK R. KEEFER.

To Fort Oglethorpe, for duty as commanding officer, Evacuation Hospital No. 8, Lieut.-Col. JAMES F. HALL.

To Fort Riley, as commanding officer of Evacuation Hospital No. 12, Lieut.-Col. HORACE D. BLOOMBERGH.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. JOHN D. DICKSON, Birmingham.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. ROBERT B. DODSON, Grand Bay.

To Charleston, S. C., 61st Artillery, from Fort Oglethorpe, Lieut. RAYFORD HODGES, Woodville.

To Fort Leavenworth, Kans., for duty, from Fort Oglethorpe, Lieut. LEROY H. WOODRUFF, Anniston.

To Fort Oglethorpe, Evacuation Hospital No. 8, from Fort Oglethorpe, Lieut. JULIUS W. McCALL, Montgomery. For instruction, Lieuts. JAMES H. BLUE, CARL A. HARRIS, Bessemer; THOMAS C. SAVAGE, Demopolis; JAMES E. WHITE, Detroit.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Lieut. LONNIE W. GROVE, Tuscaloosa.

To Rochester, Minn., for instruction, and on completion *to his proper station,* from Camp Sheridan, Lieut. THOMAS B. HUBBARD, Montgomery.

To San Antonio, Tex., Kelly Field, for duty, Lieut. ROBERT B. PRYOR, Sprott.

To South San Antonio, Texas, for duty, Capt. ALFRED P. WEBB, Atmore.

Arizona

To Fort Riley, for instruction, Lieut. ISAAC L. GARRISON, Phoenix.

To Fort Sam Houston, Texas, Department Laboratory, Lieut. MARTIN R. REIBER, Tereva.

Arkansas

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieuts. HUGH L. RAINES, Bay; WILLIAM W. MARTIN, Martinsville.

To Fort Oglethorpe, for instruction, Lieuts. RUPERT N. BLAKELY, Coal Hill; CARL S. BUNGART, Fort Smith, Hospital Train No. 35, from Fort Oglethorpe; Lieuts. WILLIAM B. CENTER, Garland; SHEROD A. DRENNEN, Rush.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieuts. EVERETT N. LIPE, Scranton; MARTIN V. B. WADDLE, Success.

To Philadelphia, Pa., University of Pennsylvania, for instruction, HORACE P. ROUTH, Little Rock.

To Rochester, Minn., for instruction, and on completion *to his proper station,* from Camp Grant, Lieut. CHARLES W. HALL, Greenwood.

To South San Antonio, Texas, for duty, Lieut. WILLIAM R. RAYNIE, Haynes.

California

To Camp Dix, Wrightstown, N. J., for duty, from Allentown, Pa., Lieut. FRANK E. McCULLOUGH, Lincoln.

To Camp Kearny, Linda Vista, Calif., for temporary duty in his specialty, Capt. THOMAS J. ORBISON, Los Angeles; for duty, Lieuts. GEORGE D. TROUTMAN, Los Angeles; RALPH W. AVERY, South Pasadena; WILLIAM R. REEVES, Spreckles.

To Lakewood, N. J., for duty, from Fort Oglethorpe, Lieut. FRANK M. MILLER, San Francisco.

To Los Angeles, Calif., for duty, Lieut. CHARLES G. STIVERS, Los Angeles; as a member of examining board and recruiting officer, from San Diego, Calif., Lieut. ARTHUR N. BOBBITT, San Diego.

To report by telegraph to the Commanding General, Western Department, for assignment to duty, Lieut. CHARLES PIUS, Montague.

To report in person to the Commanding General, Western Department, for assignment to duty, Lieut. JAMES M. SMITHWICK, San Francisco.

To his home and honorably discharged, Major JOHN J. KYLE, Los Angeles; Lieut. WALTER I. SUNBURNT, Sacramento.

Colorado

To Fort Riley, for instruction, Lieut. CYRUS W. POLEY, Boulder.

To Rockefeller Institute, New York, for instruction in laboratory work, from Fort Oglethorpe, Lieut. ARTHUR W. STAHL, Denver.

Connecticut

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. WILLIAM M. STAHL, Danbury.

To Camp Lee, Petersburg, Va., for duty, from Fort Oglethorpe, Capt. ROBERT E. PERDUE, South Norwalk.

To Fort Leavenworth, Kansas, to examine the command for mental and nervous diseases, from New York City, Lieut. HAROLD A. BANCROFT, Hartford.

To Fort Oglethorpe, for instruction, Capt. CHARLES J. LEVERTY, Bridgeport; Lieut. WALTER L. BARBER, Jr., Waterbury.

To Hoboken, N. J., for duty, from Camp Mills, Capt. NELSON L. DEMING, Litchfield.

To Rockefeller Institute, New York, for instruction in laboratory work, from Fort Oglethorpe, Lieut. JACQUES H. GREEN, Waterbury.

To his home and honorably discharged on account of being physically disqualified for active service, Capt. G. WIGHT, Bethel.

Delaware

To Fort Oglethorpe, for instruction, Lieut. WILLIAM R. PIERCE, Milford.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Lieut. EDWIN H. LENDERMAN, Wilmington.

District of Columbia

To Fort Oglethorpe, for instruction, Lieut. LANE B. KLINE, Washington.

To New York City, to inspect roentgen-ray equipment, and on completion *to his proper station,* Major ARTHUR C. CHRISTIE, Washington.

Florida

To Fort Oglethorpe, for instruction, Capt. HENRY C. DOZIER, Ocala; Lieut. JACOB J. SPENCER, St. Augustine.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Capt. THOMAS A. NEAL, Sanford.

Georgia

To Army Medical School, Washington, D. C., for duty, Lieut. ERNEST B. SAYO, Milledgeville.

To Camp Gordon, Atlanta, Ga., base hospital, from Philadelphia, Major FRANK E. BOLAND and Capt. CHARLES E. DOWMAN, Atlanta.

To Camp Hancock, Augusta, Ga., base hospital, Lieut. FRANCIS C. NESBIT, Norcross.

To Camp Lee, Petersburg, Va., base hospital, Capt. EDWARD M. COLEMAN, Athens.

To Fort Oglethorpe, for instruction, Lieuts. JOHN B. FITTS, HENRY C. SAULS, Atlanta; HENRY J. PARVY, JR., Byron; JAMES P. McGEE, Dahlonega; JAMES A. PRICE, Experiment.

To Fort Totten, New York, Fifty-Eighth Artillery Regiment, from Fort Oglethorpe, Lieut. ROBERT F. McLEOD, Pineview.

To New Orleans, La., for instruction, and on completion *to Fort Oglethorpe,* for instruction, Lieut. JOSEPH R. BARFIELD, Atlanta.

To South San Antonio, Texas, for duty, Capt. CLINTON R. RINER, Summit; Lieuts. LEO W. WIGGINS, Atlanta; WILLIAM D. SLOAN, Valdosta.

Idaho

To Camp Lewis, American Lake, Wash., base hospital, Lieut. ONES F. PAGE, Sandpoint.

To South San Antonio, Texas, for duty, Lieut. AUSTIN G. BYRD, Boise.

Illinois

To Army Medical School, Washington, D. C., for duty, Lieut. BURREL O. RAULSTON, Chicago; from New York City, Lieuts. JOHN HRABIK, Murphysboro; THOMAS R. MAXWELL, New Berlin.

To Boston, Mass., Fifty-Fifth Artillery Regiment to be organized in the Coast Defenses of Boston, from Fort Oglethorpe, Lieut. JOHN G. HANSEN, Wyoming.

To Camp Fremont, Palo Alto, Calif., as assistant to division surgeon, from Fort Riley, Lieut. FRANK M. BARKER, Waukegan.

To Camp Greene, Charlotte, N. C., Fifty-Eighth Infantry, from Fort Oglethorpe, Capt. WALTER VERITY, Chicago.

To Camp Hancock, Augusta, Ga., base hospital, Major ALBERT E. HALSTEAD, Chicago.

To Camp Jackson, Columbia, S. C., base hospital, from Philadelphia, Capt. THOMAS E. CHERRY, Cowden.

To Camp Joseph E. Johnston, Jacksonville, Fla., to examine the troops for nervous and mental diseases, from Washington, D. C., Lieut. WALTER A. FORD, Kankakee.

To Camp Lee, Petersburg, Va., for duty, from Fort Oglethorpe, Lieut. ALONZA W. SAUNDERS, Chicago.

To Camp Meade, Admiral, Md., for duty, from Fort Oglethorpe, Lieuts. FRANK T. DUFFY, Chicago; RALPH A. CLARIGE, Kanceville.

To Camp Sevier, Greenville, S. C., for duty, Capt. ARTHUR F. STOTTZ, Galesburg; Lieut. ALFRED A. WILKANDER, Rockford.

To Camp Wheeler, Macon, Ga., base hospital, from Philadelphia, Capt. CHARLES J. SWAN, Chicago.

To Charleston, S. C., Sixty-First Artillery, from Fort Oglethorpe, Lieut. HARRY E. WILSON, Centralia.

To Chicago, Ill., to examine applicants for appointment in the Officers' Reserve Corps, Major EDMOND J. DOERING, Chicago.

To Fort Oglethorpe, for instruction, Capt. ROBERT T. GILLMORE, Chicago; Lieuts. ALEXANDER W. BURKE, Chicago; CHESTER W. TROWBRIDGE, Oak Park.

To Fort Riley, for instruction, Lieut. BERTON W. HOLE, Ashland; from Camp Dodge, Lieuts. WALTER C. BISSON, Charleston; ARTHUR W. DOWNS, Chicago; CHARLES M. COEN, Cornell.

To Fort Sheridan, Ill., Hospital Train 52, Lieuts. LEON G. BRACKETT, FRANCIS J. CONROY, Chicago.

To Lakewood, N. J., for duty, Major DANIEL A. K. STEELE, Chicago.

To Rochester, Minn., for instruction, and on completion *to his proper station*, from Camp Gordon, Lieut. GUY A. LONGBRAKE, Galesburg; from Camp MacArthur, EUGENE Y. YOUNG, Mansfield.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Lieut. ROLLEN W. HARROD, Avon; Kelly Field, for duty, Lieut. IRVING W. STEINER, Harvey.

To South San Antonio, Texas, for duty, Capt. HENRY J. JURGENS, Quincy; Lieuts. HARLAN E. KISE, Chicago; JOHN E. REED, Thompsonville; from Rantoul, Lieut. RALPH G. CRESSMAN, Ogiesby.

To Waco, Texas, for duty with aviation troops, Lieuts. ELLSWORTH J. CARROLL, Beaver Creek; WILLIAM C. WILLIAMS, Chicago.

To his home and honorably discharged, Capt. ROBERT G. McCARTHY, Chicago; Lieut. CLIFFORD J. SPRUCE, Chicago; on account of being physically disqualified for active service, Lieut. SHERMAN DAVIS, Chicago.

Indiana

To Fort Logan H. Roots, Arkansas, for temporary duty, from St. Louis, Lieut. WARREN W. HEWINS, Evansville.

To Fort Oglethorpe, for instruction, Lieut. WILL C. MOORE, Summitville.

To Fort Riley, for instruction, Major EUGENE BUEHLER, Indianapolis; Lieut. PAUL V. LYNCH, Indianapolis.

To Hoboken, N. J., for duty, from Camp Mills, Lieuts. WALLACE C. DYER, Evansville; FRANK A. BRAYTON, Indianapolis.

To Rochester, Minn., Mayo Clinic, for instruction, Capt. GEORGE R. OSBORN, Laporte.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Capt. WALDO C. PARNHAM, Fort Wayne.

To South San Antonio, Texas, for duty, Capt. WILLIAM C. MOSS, Bunker Hill.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. THOMAS I. PADGETT, Jasonville.

Iowa

To Camp Fremont, Palo Alto, Calif., for duty as sanitary inspector, from Fort Riley, Capt. RUSSELL M. YOUNG, Red Oak.

To Charleston, S. C., Sixty-First Artillery, from Fort Oglethorpe, Lieut. ARTHUR C. STRONG, Burlington.

To Edgewood, Md., the American Milling Plant, from Aberdeen, Md., Lieut. MILTON J. FREEMAN, Carroll.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieut. ELMER A. CARBERRY, Maynard.

To Jackson Barracks, New Orleans, La., for duty, from Fort Oglethorpe, Lieut. CHARLES B. RENTZ, Hornick.

To Rochester, Minn., for instruction, and on completion *to his proper station*, from Camp Dodge, Lieut. GERALD V. CAUGHLAN, Pacific Junction.

To San Francisco, Calif., Sixty-Fifth Artillery, from Fort Riley, Capt. LEROY A. WESCOTT, Cherokee; Sixty-Second Artillery, from Fort Riley, Lieut. FRANKLIN J. DRAKE, Webster City.

To South San Antonio, Texas, for duty, Lieuts. MURDOCH BANNISTER, Ottumwa; OTTO J. BLESSIN, Postville.

Kansas

To Camp Meade, Annapolis Jct., Md., for duty, from Fort Riley, Lieut. CASPER MIDDLEKAUFF, Hays.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieut. ALEXANDER P. WILLIAMS, Nedoesha.

To Fort Logan H. Roots, Arkansas, for temporary duty, from St. Louis, Lieut. CLYDE M. ZINK, Wellington.

To Fort Oglethorpe, for instruction, Lieut. EDWARD K. LAWRENCE, Great Bend.

To Pittsburg, Pa., Carnegie Institute of Technology, for one month's intensive instruction in automobile maintenance and gas engine operation, and on completion *to his proper station*, from Fort Riley, Lieut. WILLIAM F. SMITH, Atchison.

To Rockefeller Institute, New York, for instruction in laboratory work, from Fort Oglethorpe, Lieut. RICHARD C. HENDERSON, Pittsburg.

To San Antonio, Texas, for duty, from Garden City, L. I., N. Y., Lieut. HUGH D. McGAUGHEY, Jamestown.

To San Francisco, Calif., Sixty-Second Artillery, from Fort Riley, Lieut. DWIGHT C. SMITH, Girard.

To Seattle, Wash. Sixty-Third Artillery, from Fort Riley, Lieuts. DAVID W. MANSON, Burlington; ARTHUR R. NASH, Parsons.

To South San Antonio, Texas, for duty, Lieut. GEORGE W. THUME, Winona.

Kentucky

To Camp Grant, Rockford, Ill., base hospital, from Camp Sherman, Capt. PORTER C. LAYNE, Ashland.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieuts. HARRY H. MAYO, Allen; LAWRENCE L. WASHBURN, Benton; ROBERT L. COLLINS, Hazard; GEORGE PURDY, New Liberty; ROBERT C. MOSS, Rockfield.

To Camp Sevier, Greenville, S. C., for duty, Lieut. JAMES M. STAUGHTON, Covington.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from Philadelphia, Lieuts. WILLIAM D. REDDISH, Lexington; DAVID C. DONAN, Morganfield.

To Fort Oglethorpe, for instruction, Capt. GUY P. GRIGSBY, Louisville.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Capt. BENJAMIN F. ZIMMERMAN, Louisville.

To South San Antonio, Texas, Kelly Field, for duty, Capt. LESLIE LOGAN, Barbourville.

To his home and honorably discharged, Lieut. WALTEL C. SIMMONS, Smith's Grove.

Louisiana

To Fort Oglethorpe, for instruction, Lieut. WALTER B. HUNTER, Shreveport.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieut. SIDNEY F. BRAND, New Orleans.

To New York City, for temporary duty, from Camp Wheeler, Major JOHN T. HALSEY, New Orleans.

To Rochester, Minn., for instruction, and on completion *to his proper station*, from Camp Beauregard, Lieut. ALONZO T. PALMER, Oakdale.

Maine

To Army Medical School, for duty, from New York City, Lieut. CARL G. BENNETT, Unity.

To Camp Doniphan, Fort Sill, Okla., base hospital, from Fort Logan H. Roots, Lieut. ALLAN WOODCOCK, Bangor.

To Camp Gordon, Atlanta, Ga., base hospital, Capt. HARVEY H. ROBERTS, South Portland.

To Camp Sevier, Greenville, S. C., for duty, Capt. LORING S. LOMBARD, South Portland.

To Fort Oglethorpe, for instruction, Lieut. HAROLD M. GOODWIN, Lincoln.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Capt. WALTER E. WHITNEY, Bangor.

Maryland

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. ROBERT S. CUNNINGHAM, Baltimore.

To Camp Jackson, Columbia, S. C., base hospital, Capt. ANDREW J. N. REIK, Baltimore.

To Camp MacArthur, Waco, Texas, for duty, Lieut. DANIEL of St. Thomas Jenifer, Towson.

To Camp Travis, Fort Sam Houston; *Camp Bowie*, Fort Worth, Texas; *Camp Shelby*, Hattiesburg, Miss.; *Camp Jackson*, Columbia, S. C., for inspection, and upon completion *to his proper station*, Major WILLIAM H. WELCH, Baltimore.

To Edgewood, Md., U. S. Milling Plant, for duty, from Fort Myer, Capt. MAYNARD J. SIMMONS, Indian Head.

To Fort Oglethorpe, for instruction, Lieut. ALBERT G. HAHN, Baltimore.

To Newport News, Va., as a member of a board of medical officers for the special examination of the troops for tuberculosis, from Allentown, Lieut. ISRAEL J. FEINGLOS, Baltimore.

Massachusetts

To Army Medical School, Washington, D. C., for instruction in tuberculosis examinations, Capt. WILLIAM M. GAY, Sharon; for preparation for nutritional survey, Capt. RICHARD D. BELL, Somerville; for duty, from New York, Lieut. DAVID L. BELDING, Boston.

To Boston, Mass., Military School of Aeronautics, Institute of Technology, from Boston, Capt. CHARLES S. BUTLER, Boston; Aviation Section, Signal Corps, as medical member of Examining Board No. 2, and recruiting officer, Lieut. EDWARD F. W. BERTOL, Milton.

To Camp Devens, Ayer, Mass., for duty as commanding officer of the base hospital, from Camp Devens, Major CHANNING FROTHINGHAM, JR., Boston.

To Camp Hancock, Augusta, Ga., base hospital, Lieut. JOHN H. DOYLE, Fall River.

To Camp Pike, Little Rock, Ark., to examine the command for mental and nervous diseases, from Fort Snelling, Capt. CHESTER C. BECKLEY, Lancaster.

To Fort Logan H. Roots, Arkansas, for temporary duty, from St. Louis, Lieut. JOHNSTON L. CHERESKIN, Springfield.

To Fort Oglethorpe, for instruction, CAPT. NATHANIEL ROBERT MASON, Boston; Lieuts. JOHN B. FITTS, Boston; GEORGE A. WHITE, Cambridge; WILLIAM R. MORRISON, East Boston; ALFRED T. DALRYMPLE, South Boston; from duty as a private at Camp Getty, Jamestown, R. I., Lieut. ERNEST G. LA RIVIERE, New Bedford.

To Jackson Barracks, New Orleans, La., from Fort Oglethorpe, Capt. STARR A. MOULTON, Winthrop.

To New York City, Postgraduate Medical School and Hospital, for instruction in urology and dermatology, Lieuts. EVERETT A. MERRILL, East Lynn; CLARENCE G. LANE, Woburn.

Michigan

To Camp Greene, Charlotte, N. C., Fifty-Eighth Infantry, from Fort Oglethorpe, Lieut. WILLIAM WESTTRATE, Holland.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. WORTH W. WALTON, Mancelona.

To Camp Wadsworth, Spartanburg, S. C., base hospital, from Camp Wadsworth, Lieut. HEINRICH A. REYE, Detroit.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. LELAND H. TOWER, Battle Creek.

To Charleston, S. C., Sixty-First Artillery, from Fort Oglethorpe, Lieut. JOSEPH G. KNAPP, Ford.

To Cleveland, Ohio, for instruction, and on completion *to his proper station*, from Camp Sherman, Lieut. EDGAR J. MILLER, Romeo.

To Edgewood, Md., for duty, from Camp Custer, Capt. THOMAS B. HENRY, Northville.

To Fort Oglethorpe, for instruction, Lieuts. ALBERT H. KROHN, ERNEST C. SCHULTZ, Detroit.

To Fort Riley, for instruction, Capt. NORMAN J. PIKE, Saginaw.

To Fort Totten, New York, Fifty-Seventh Artillery Regiment, from Fort Oglethorpe, Lieut. CHARLES J. FOLEY, Detroit.

To Hoboken, N. J., for duty, from Camp Mills, Lieut. CHARLES F. KUHN, Detroit.

To Philadelphia, Pa., University of Pennsylvania, for intensive training in brain surgery, Lieut. LEO J. DRETSKA, Detroit.

To Rochester, Minn., for instruction, and on completion *to his proper station,* from Camp Taylor, Lieut. HARLEN MACMULLEN, Manistee; from Fort Sheridan, Lieut. JAMES RHINES, Lawrium; Mayo Clinic, for instruction, and on completion *to Camp Bowie,* Fort Worth, Texas, base hospital, from Camp Grant, Lieut. WILLIAM LAR. SHERMAN, Detroit.

To South San Antonio, Texas, for duty, Capt. HOWARD T. CARRIEL, Marquette.

To his home and honorably discharged from the Medical Reserve Corps, Lieut. WESLEY A. GRIFFIN, Deckerville; on account of being physically disqualified for active duty, Lieut. FRANK M. GOWDY, St. Joseph.

Minnesota

To Boston, Mass., Fifty-Fifth Artillery Regiment to be organized in the Coast Defenses of Boston, from Fort Oglethorpe, Capt. WILLIAM E. WRAY, Campbell.

To Camp Fremont, Palo Alto, Calif., headquarters and military police and ammunition trains, from Fort Riley, Lieut. CHARLES C. ALLEN, Austin.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. AUVIGNE M. RANDALL, Ashby.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. JAMES K. ANDERSON, Minneapolis.

To Pittsburgh, Pa., Carnegie Institute of Technology, for one month's intensive instruction in automobile maintenance and gas engine operation, and on completion *to his proper station,* from Fort Riley, Lieut. JOHN W. MINTERER, Minneapolis.

To Rockefeller Institute, N. Y., for instruction in laboratory work, from Fort Oglethorpe, Lieut. PERCY A. WARD, Minneapolis.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Bowie,* Fort Worth, Texas, base hospital, Major WALTER H. DARLING, Minneapolis.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Capt. JOHN W. LEE, Minneapolis.

To San Francisco, Calif., 62d Artillery, from Fort Riley, Lieut. LUTHER L. GIBBON, Lowry.

To St. Louis, Mo., for instruction in urology and dermatology, Capt. WILLIAM V. LINDSAY, Winona.

To Washington, D. C., for duty in Surgeon-General's office, Capt. LOUIS B. BALDWIN, Minneapolis.

To his home and to the inactive list, Lieut. ARTHUR L. ARNESON, Emmons.

Mississippi

To Camp Shelby, Hattiesburg, Miss., base hospital, from Camp Shelby, Capt. JOHN R. TACKETT, Meridian; Lieut. BENJAMIN T. ROBINSON, New Augusta.

To Fort Oglethorpe, for instruction, Lieut. MAURY H. McRAE, Corinth.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. JUDGE JAMES, Ackerman.

Missouri

To Camp Greene, Charlotte, N. C., 58th Infantry, from Fort Oglethorpe, Lieut. DOUGLAS WYATT, Mineola.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieut. WALLACE S. PETTY, Rutledge.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. EDWARD A. HOEFER, Marceline.

To Fort Oglethorpe, for instruction, Capt. ROBERT E. SCHLUETER, St. Louis.

To Fort Riley, for instruction, from Kansas City, Lieuts. SAMUEL H. SNIDER, Kansas City; ALGIE R. SHREFFLER, St. Louis.

To Fort Totten, N. Y., 58th Artillery Regiment, from Fort Oglethorpe, Lieuts. HALBERT R. HILL, Bachelor; ARTHUR L. FUERTH, St. Louis.

To Kansas City, Mo., to mobilize Base Hospital No. 28, Christian Church Hospital, and on completion to proceed together with his enlisted personnel and commissioned officers *to Fort McPherson, Ga.,* to be trained and equipped, Capt. LINDSAY S. MILNE, Kansas City Base Hospital No. 28, Lieut. SHERMAN B. HIBBARD, Kansas City; from Camp Funston, Lieut. HERBERT S. VALENTINE, Kansas City; from Camp Pike, Lieut. JAMES R. ELLIOTT, Kansas City; from St. Louis, Lieut. CLAUDE J. HUNT, Kansas City.

To Philadelphia, Pa., for instruction, and on completion *to Fort McHenry,* for temporary duty, from Camp Pike, Major HAROLD C. HERRICK, St. Louis.

To San Francisco, Calif., 65th Artillery, from Fort Riley, Lieut. THOMAS S. FLEMING, Moberly.

To St. Louis, Washington University, for instruction, and on completion *to his proper station,* from St. Louis, Capt. CHARLES A. VOSBURGH, St. Louis; for instruction in urology and dermatology, Lieuts. EDWIN D. EDWARDS, GEORGE H. MYERS, St. Louis.

To Washington, D. C., for duty in the Surgeon-General's office, Major FREDERICK W. BAILEY, St. Louis.

To his home and honorably discharged, Lieut. OTIS M. S. McCALL, Rocky Comfort.

Montana

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieut. JULIEN L. TREMBLAY, Butte.

To South San Antonio, Texas, for duty, Lieut. GEORGE J. JUCKEM, Big Sandy.

Honorably discharged, on account of being physically disqualified for active service, Lieut. FRANCIS J. GAYLEY, Kremlin.

Nebraska

To Army Medical School, Washington, D. C., for duty, from New York City, Capts. WILLIAM W. DEWOLFE, Bennet; HARRY M. BONNIWELL, Burchard.

To Fort Riley, for instruction, Major ELMER S. TORMEY, Lincoln.

To South San Antonio, Texas, for duty, Capt. JAMES H. METTLEN, Bloomfield; Lieuts. CHARLES D. HUSTEAD, Aurora; JAMES F. WOOD, Burwell.

Nevada

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. ONLY J. CHANEY, McDermitt.

New Hampshire

To Camp Devens, Ayer, Mass., base hospital, from Camp Devens, Capt. JOHN E. TOYE, Charleston.

To Hoboken, N. J., for duty, from Camp Mills, Capts. PERCY BARTLETT, Hanover; CHARLES A. LAMSON, New London.

New Jersey

To Camp Dix, Wrightstown, N. J., base hospital, from Camp Dix, Lieut. CHARLES M. GRAY, Vineland.

To Camp Jackson, Columbia, S. C., base hospital, from Philadelphia, Lieut. MARTIN W. REDDAN, Trenton.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. MORRIS J. WEISE, Bayonne.

To Camp Wheeler, Macon, Ga., base hospital, from Philadelphia, Lieut. JOSEPH G. DENELSBECK, Trenton.

To Fort Oglethorpe, for instruction, Lieuts. THOMAS CRAVEN, Atlantic City; THOMAS W. HARVEY, Ja., Orange.

To Hoboken, N. J., for duty, from Camp Mills, Lieut. CHARLES F. BECKER, Camden.

To New York City, Post Graduate Medical School and Hospital, for instruction in urology and dermatology, Lieut. SAMUEL ROTHENBERG, Newark; from Fort Oglethorpe, Lieut. EDWARD GUION, Atlantic City.

To Pittsburgh, Pa., Carnegie Institute of Technology, for one month's intensive instruction in automobile maintenance and gas engine operation, and on completion *to his proper station,* from Fort Oglethorpe, Lieut. JAMES S. KNOWLES, Tuckahoe.

Honorably discharged on account of being physically disqualified for active service, Lieut. JAMES R. STROUD, Jersey City.

New York

To Army Medical School, Washington, D. C., for instruction in tuberculosis examinations, and on completion *to their proper stations,* from Camp Meade, Capt. THOMAS F. ELLIS, New York City; for duty, from New York City, Lieut. HARRY PLOTZ, Brooklyn; for instruction in tuberculosis examinations Lieut. FELIX GRABOFF, New York City.

To Boston, Mass., Harvard Medical School, for instruction in orthopedics, from Edgewood, Md., Lieut. ABRAHAM L. LOWENTHAL, New York City.

To Camp Beauregard, Alexandria, La., for duty, from Fort Oglethorpe, Lieut. THOMAS J. KIRWIN, New York City.

To Camp Cody, Deming, N. Mex., base hospital, from Philadelphia, Capt. JOSEPH E. J. KING, New York City.

To Camp Dix, Wrightstown, N. J., for duty, from New York City, Capt. ARTHUR M. KANE, New York City.

To Camp Dodge, Des Moines, Iowa, for duty, from Camp Dodge, Lieut. SAMUEL TOPKINS, Brooklyn.

To Camp Grant, Rockford, Ill., base hospital, from Camp Sherman, Capt. HENRY L. SCHELLING, Brooklyn.

To Camp Lewis, American Lake, Wash., as sanitary inspector, from Fort Riley, Lieut. VERNON L. BISHOP, Livonia.

To Camp Meade, Annapolis Jct., base hospital, from Philadelphia, Capt. WILLIAM H. SMITH, Plattsburg Barracks; for the special examination of the comand for tuberculosis, from Camp Lee, Capt. STEPHEN A. MAHADY, Utica; for duty, from Fort Oglethorpe, Lieuts. FREDERICK DAMRAU, Brooklyn; MATTHEW F. OLSTEIN, New York City.

To Camp Sevier, Greenville, S. C., for duty, Capt. GREGORY J. COSTIGAN, New York City.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. LOUIS H. STERN, Brooklyn.

To Camp Taylor, Louisville, Ky., base hospital, Capt. RAYMOND C. CONKLIN, Buffalo.

To Edgewood, Md., U. S. Milling Plant, for duty, from Fort Myer, Lieut. ABRAHAM I. LOWENTHAL, New York City.

To Fort Logan H. Roots, Ark., for temporary duty, from St. Louis, Lieut. GEORGE B. UBEL, Salamanca.

To Fort Oglethorpe, to organize and command Hospital Train No. 33, from Fort Oglethorpe, Capt. EDWARD M. COLIE, New York City. For instruction, Capts. FREDERICK N. WILSON, New York City; THOMAS A. ROGERS, Plattsburg; BURTON S. BOOTH, Troy; Lieuts. FRANCIS W. CURRIN, BENJAMIN FABBINER, ONSLOW A. GORDON, ERNEST L. SCHAEFER, Brooklyn; LAWRENCE M. BELZER, Buffalo; GARRETT N. BANKER, LEO EDELMAN, IRVING EPSTEIN, HERMAN F. LAMPE, DANIEL B. LYNCH,

ROBERT F. McDONALD, GEORGE B. PACE, WALTER G. H. POTT, HENRY W. SCHLESINGER, ADOLPH A. WEISE, WILLIAM ZUCKERMAN, New York City; ALVA G. DUNBAR, Richland; JAMES F. DOUGHERTY, Richmond Hill; GUY GRANGER, Sherman; from New York City, Lieut. ANDREW W. MAHONEY, New York City; from Walter Reed General Hospital, Lieut. CHESTER F. DURYEE, Brooklyn.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Capt. ALEXANDER C. CALISCH, Oswego.

To Fort Screven, Ga., for duty, from Fort Oglethorpe, Lieut. WILLIAM G. LEWIS, Alton.

To Fort Totten, N. Y., as Intelligence Officer, from Camp Alfred Vail, Capt. HARRIS A. HOUGHTON, Bayside.

To Garden City, L. I., N. Y., for duty, from Belleville, Ill., Major JOSEPH B. COOKE, Cooperstown.

To Hoboken, N. J., for duty, from Camp Mills, Capts. CARTER S. COLE, FRED M. MEADER, FRANK H. KNIGHT, ERNEST K. KRUG, New York City; Lieuts. WILLIAM G. BERLUCCI, Brooklyn; PETER J. BARONE, Buffalo; AUGUSTUS P. DELLETT, WILLIAM H. ORDWAY, New York City; GEORGE K. SMITH, Syracuse.

To New York City, Aviation Section, Signal Corps, for duty, Capt. SIDNEY YANKAUER; from New York City, Capt. FRANCIS W. WHITE, Lieut. DAVID D. STOWELL, New York City; for duty, Lieut. EDGAR D. OPPENHEIMER, New York City. For instruction in orthopedic work, Lieut. JESSE R. PRICHARD, New York City; from New York, Lieut. HARMON McL. DINGMAN, New York City. Post-Graduate Medical School and Hospital, for instruction in urology and dermatology, from Fort Oglethorpe, Lieut. WILLIAM H. GOLDSTEIN, New York City.

To Philadelphia, Pa., University of Pennsylvania, for instruction, from Fort Oglethorpe, Lieut. OTTO E. UTZINGER, Ithaca.

To Rochester, Minn., for instruction, and on completion *to Des Moines, Iowa,* base hospital, from Fort Oglethorpe, Lieut. THERON B. BOND, Cuba. Mayo Clinic for instruction, and on completion *to Camp Grant,* base hospital, from Fort Oglethorpe, Lieut. JEROME A. MURPHY, Buffalo.

To Rockefeller Institute, New York, for instruction in serum therapy pneumonia, from Camp Wheeler, Capt. JAMES F. NAGLE, New York City; for instruction in laboratory work, from Camp Devens, Lieut. WILLIAM GOLDSTEIN, New York City; from Camp Taylor, Lieut. RALPH F. ROBINSON, Belmont.

To San Antonio, Texas, Kelly Field, for duty, Capt. EMMET R. BUSKLEW, New York City; from Mineola, L. I., N. Y., Lieuts. PAUL E. BETOWSKI, Bath; LOARENT G. FEINIER, New York City.

To San Francisco, Calif., 65th Artillery, from Fort Riley, Lieut. ROBERT ENGL, New York City.

To Seattle, Wash., 63d Artillery, from Fort Riley, Capt. ALBERT K. DETWILLER, New York City.

To South San Antonio, Texas, for duty, from Rantoul, Ill., Lieut. WILLIAM J. SCOTT, New York City.

To Williamsburg, N. Y., for temporary duty, Capt. DE WILL STETTEN, New York City.

To his home and honorably discharged, on account of being physically disqualified for active service, Capt. SAMUEL W. S. TOMS, Nyack; Lieuts. OSCAR SPIER, New York City; WALTER J. SMITH, Waterville.

To his home and honorably discharged, Lieuts. EDWARD DANFORTH, Bainbridge; EDMONT C. LINTON, New York City.

Honorably discharged on account of being physically disqualified for active service, Lieuts. PERCIVAL D. BAILEY, Endicott; HENRY S. FRUITNIGHT, New York City.

North Carolina

To Army Medical School, Washington, D. C., for instruction in tuberculosis, Capt. THOMSON FRAZER, Asheville; and on completion *to his proper station,* from Camp Meade, Lieut. FREDERICK B. SPENCER, Salisbury.

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Major WILLIAM E. WILMERDING, Selma.

To Camp Sevier, Greenville, S. C., for duty, Lieut. JULIUS J. BAREFOOT, Graham.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Capt. JACOB H. SHUFORD, Hickory; Lieut. SAMUEL B. STURGIS, Lenoir.

To Rochester, Minn., for instruction, and on completion *to his proper station,* from Camp Sevier, Lieut. CARL W. BELL, Raleigh.

North Dakota

To Camp Fremont, Palo Alto, Calif., headquarters and military police and ammunition trains, from Fort Riley, Lieut. ARLEY J. OSTRANDER, Emderlin.

To Camp Grant, Rockford, Ill., base hospital, from Philadelphia, Capt. ROBERT D. CAMPBELL, Grand Fork.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Capt. PAUL F. RICE, Solen.

To Fort Riley, for instruction, Lieut. BENJAMIN FRANKSON, Rugby.

To South San Antonio, Texas, for duty, Lieut. JESSE J. NORRIS, Westby.

Ohio

To Army Medical School, for duty, from New York City, Lieuts. CLAUDE D. HAMILTON, Canton; NOLAN E. LEAKE, Van Wert.

To Camp Beauregard, Alexandria, La., base hospital, from Rockefeller Institute, Lieut. JOSEPH E. McCLELLAND, Cleveland.

To Camp Cody, Deming, N. M., base hospital, Lieut. ALVIN A. STONE, Cleveland.

To Camp MacArthur, Waco, Texas, for duty, Lieut. EDWARD S. JONES, Painesville.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. JOHN A. MEEK, Cleveland.

To Camp Taylor, Louisville, Ky., Lieut. GEORGE S. MYTINGER, Portsmouth; from St. Louis, Lieut. MURRAY B. McCONIGLE, Toledo.

To Fort Logan H. Roots, Ark., base hospital, Lieuts. FRANZ E. SOLIER, Bryan; RALPH W. REYNOLDS, Fayette.

To Fort Oglethorpe, for instruction, Capt. JAMES K. DAY, Waynesfield; Lieuts. JOHN R. NICHOLS, Columbus; FREDERICK T. MILES, Salem; LORA L. MARRIOTT, St. Louisville.

To Fort Riley, for duty, Major WILLARD J. STONE, Lieut. CARL S. MUNDY, Toledo.

To Metuchen, N. J., for duty, from Fort Oglethorpe, Lieut. WILLIAM A. RICARD, Toledo.

To Rochester, Minn., Mayo Clinic, for instruction, and on completion *to Camp Bowie,* Fort Worth, Texas, base hospital, from Camp Grant, Capt. HENRY M. OSBORNE, Youngstown.

To Rockefeller Institute, N. Y., for instruction, from Fort Sheridan, Lieut. RICHARD E. STIFEL, Cleveland.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Lieuts. RUDOLPH S. REICH, JOHN W. TIPPIE, Cleveland; CLARENCE J. SCHIRACK, Coldwater.

To South San Antonio, Texas, Kelly Field, for duty, Lieut. ROY G. Strong, Medina.

To St. Louis, Mo., for instruction in urology and dermatology, from Camp Jackson, Lieut. EDWARD J. BRAUN, Youngstown; from Columbus Barracks, Lieut. CLAREN E. PFEIFER, Columbus.

To Washington, D. C., for duty in the office of the attending surgeon, from Fort Oglethorpe, Lieut. GEORGE C. SMITH, Mansfield.

To Wilbur Wright Field, Fairfield, Ohio, for duty, from Houston, Texas, Lieut. JOHN C. LARKIN, Hillsboro.

To his home and honorably discharged, on account of being physically disqualified for active service, Lieuts. GEORGE L. HAEFLE, Cleveland; JOHN C. LARKIN, Hillsboro.

Oklahoma

To Army Medical School, for duty, from New York City, Lieut. THOMAS A. HARTGRAVES, Soper.

To Camp MacArthur, Waco, Texas., for duty, Lieut. WALTER N. SYKES, Ramona.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. CHANNER P. CHUMLEY, Washington.

To Fort Logan H. Roots, Ark., for temporary duty, from St. Louis, Lieut. Joel S. Hooper, Tulsa.

To Fort Myer, Va., for duty, Lieut. JOSEPH H. STOLPER, Muskogee.

To Fort Riley, for instruction, Capt. VIRGIL BERRY, Okmulgee.

To Oklahoma City, Okla., for instruction in orthopedic surgery and for duty as assistant instructor, from Philadelphia, Lieut. WILLIS K. WEST, Oklahoma City.

To San Antonio, Texas, Kelly Fiekl, for duty, Lieut. SAMUEL E. MITCHELL, Stigler.

To South San Antonio, Texas, for duty, Lieut. TASWELL D. ROWLAND, Shawnee.

To St. Louis, Mo., for instruction in urology and dermatology, Lieut. JAMES C. HAWKINS, Blackwell.

Honorably discharged, Lieut. FRANK L. CARSON, Shawnee.

Oregon

To Camp Lewis, American Lake, Wash., for duty, Lieuts. MERLE G. HOWARD, Junction City; HARRY B. MOORE, Portland. Base hospital, Lieut. EUGENE W. ROCKEY, Oswego.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. BENJAMIN WADE, Portland.

To Fort Riley, for duty, from Camp Kearny, Capt. DAVID N. ROBERG, Portland.

Pennsylvania

To Army Medical School, Washington, D. C., for instruction in tuberculosis examinations, and on completion *to his proper station,* from Camp Meade, Capt. JAMES M. McNALL, Wilkinsburg. For duty, Lieut. ARTHUR ST. C. BRUMBAUGH, Altoona; from New York City, Lieuts. OTTO C. HIRSCH, JULIAN E. MEYER, Philadelphia.

To Boston, Mass., Harvard Medical School, for instruction in orthopedic surgery, Lieut. EDWARD PARDOS, South Fork.

To Camp Greene, Charlotte, N. C., 58th Infantry, from Fort Oglethorpe, Lieut. GUSTAVE G. KALMUTZ, Berlin.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. VICTOR J. P. JOURDAN, Bristol.

To Camp Meade, Annapolis Jct., Md., base hospital, from Camp Shelby, Lieut. HENRY G. MUNSON, Philadelphia; from Fort Oglethorpe, Lieut. IVOR D. FENTON, Mahoney City.

To Camp Pike, Little Rock, Ark., for duty, from Fort Riley, Lieut. CHARLES H. CHERRY, Mont Alto.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. JAMES M. BLACKWOOD, Newcastle.

To Camp Sheridan, Montgomery, Ala., base hospital, Lieut. HENRY BIERMAN, Bloomsburg.

To Camp Travis, Fort Sam Houston; *Camp Bowie,* Fort Worth, Texas; *Camp Shelby,* Hattiesburg, Miss., and *Camp Jackson,* Columbia, S. C., for inspection, and on completion *to his proper station,* Major ALEXANDER C. ABBOTT, Philadelphia.

To Fort Jay, New York, for duty, from Camp Mills, Lieut. JOHN WALTER FREY, Avalon.

To Fort Oglethorpe, Evacuation Hospital No. 5, from Chickamauga Park, Ga., Capt. PHILIP NORRIS, Philadelphia Evacuation Hospital

No. 8; from Fort Oglethorpe, Capt. DAVID DALE, Bellefonte. For instruction, Capts. WILLIAM F. BEITZCH, New Brighton; JOHN J. GILBRIDE, Philadelphia; Lieuts. CLAUDE A. ROBB, Butler; PAUL G. DICK, Connellsville; ELTON B. ROGERS, Gap; EUGENE B. SHARP, Johnsonburg; EDWIN C. BOYER, Johnstown; ADAM G. HEILMAN, Lebanon; THOMAS J. McNELIS, Lucerne Mines; WILLIAM W. WATER, Nanticoke; KENNETH E. McCAMEY, Parker's Landing; ARCHIBALD W. DUNN, EUGENE C. MURPHY, Philadelphia; GEORGE R. LACY, JAMES A. MANSTER, Pittsburgh; ALBERT J. STORM, Renovo; CHARLES K. SHANER, Sewickley; WILLIAM P. NOLAN, Shingle House; JESSE L. McCRACKEN, Smithfield; ARTHUR E. SIMONIS, Tremont; LOUIS F. FALLON, Wayne; EDWARD A. STEINHILBER, West Philadelphia. Evacuation Hospital No. 8, from Fort Oglethorpe, Lieut. GEORGE E. ALLEMAN, Altoona.

To Fort Riley, for instruction, from Kansas City, Mo., Lieut. JAMES F. KELLY, Monessen.

To Fort Totten, N. Y., 57th Artillery Regiment, from Fort Oglethorpe, Lieut. JAMES E. THRONE, York.

To Hoboken, N. J., for duty, from Camp Mills, Major JACK C. GITTINGS, Philadelphia; Capt. WILLIAM J. MONAGHAN, Girardville; Lieut. ISAAC S. TASSMAN, Philadelphia.

To New York City, Post-Graduate Medical School and Hospital, for instruction in urology and dermatology, from Fort Oglethorpe, Lieut. JOSEPH M. KENWORTHY, Philadelphia.

To Philadelphia, Pa., University of Pennsylvania, for instruction, Lieuts. FRANK R. BAILEY, LYNDON H. LANDON, Pittsburgh; from Fort Oglethorpe, Lieut. JOHN ALEXANDER, Pittsburgh.

To Rochester, Minn., for instruction, and on completion *to his proper station*, from Camp Sherman, Lieuts. LAWRENCE H. FITZGERALD, CHARLES C. MOORE, Pittsburgh.

To South San Antonio, Texas, for duty, from Rantoul, Ill., Lieut. SAMUEL E. LYON, Pittsburgh.

To his home and honorably discharged on account of being physically disqualified for active service, Capt. WILLIAM H. CROWELL, Philadelphia; Lieut. FRANK B. STEVENSON, Indiana.

South Carolina

To Camp Lee, Petersburg, Va., for duty, from Fort Oglethorpe, Lieut. CARL L. ABLE, Leesville.

To Camp Meade, Annapolis Jct., Md., for duty, from Fort Oglethorpe, Lieut. DANIEL D. STRAUSS, Bennettsville.

To Camp Wadsworth, Spartanburg, S. C., base hospital, Lieut. JOHN W. PARKER, Greenville.

To Fort Logan H. Roots, Ark., for temporary duty, from St. Louis, Lieut. JAMES M. WALLACE, Greenville.

South Dakota

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. GUSTAV A. LANDMAN, Scotland.

To Fort Riley, for instruction, from duty as a private at Fort Riley, Lieut. ROSCOE R. FISK, Brooklings.

To Seattle, Wash., 63rd Artillery, from Fort Riley, Lieut. JOHN J. MERTENS, Gettysburg.

Tennessee

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. LESLIE T. BOLTON, Lucy.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. THOMAS W. MENEES, Nashville.

To Camp Upton, L. I., N. Y., Motor Truck Co., No. 497, from Fort Oglethorpe, Capt. JOHN H. MARBLE, Cowan.

To Fort Oglethorpe, for instruction, Lieut. ROBERT M. YOUNG, Knoxville; for special instruction in tuberculosis examinations, Lieut. ROBERT PILLOW, Jr., Columbia.

To Fort Riley, for instruction, Lieut. ORVILLE B. MOON, Bell Buckle.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieut. WILLIAM K. VANCE, Jr., Bristol.

To Portland, Oregon, Aviation Section, Signal Corps, from Salt Lake City, Lieut. LOUIS LEVY, Memphis.

To South San Antonio, Texas, for duty, Capt. FREDERICK C. McISAAC, Chattanooga.

Texas

To Army Medical School, Washington, D. C., for duty, from New York City, Capt. EDWARD F. COOKE, Houston.

To Camp Bowie, Fort Worth, Texas, base hospital, Capt. WILLIAM W. FITZPATRICK, Paris; Lieuts. WILLARD C. HEARIN, Canton; JOHN R. LEWIS, Gainesville.

To Camp Cody, Deming, N. M., base hospital, Capt. MILES J. DUNCAN, Dallas; Lieut. WILLIAM T. DUNNING, Gonzales.

To Camp Lee, Petersburg, Va., for duty, from Camp Lee, Lieut. CHARLES O. HURLEY, Fort Worth; from Fort Oglethorpe, Lieut. ORVILLE T. BUNDY, Hutto.

To Camp Logan, Houston, Texas, base hospital, Lieuts. HENRY E. BAYLIS, Huntsville; FRANK N. HAGGARD, San Antonio.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. TALBERT M. HALL, Osage.

To Fort Riley, for instruction, Capt. ROBERT D. GIST, Amarillo; Lieut. FRANCIS C. GREEN, Oglesby.

To Fort Sam Houston, Texas, for assignment to duty, from Fort Oglethorpe, Lieuts. LEWIS E. TURRENTINE, Tahoka; C. ZENO HOLT, Texline; for duty in the Department Laboratory, Lieut. S. BUIE, Hillsboro.

To South San Antonio, Texas, for duty, Capt. WILLIAM E. BROWN, Abiline; Lieut. BENJAMIN O. WHITE, Rosebud.

To his home and honorably discharged, on account of being physically disqualified for active service, Capt. JOHN H. WALKER, Alvord.

Vermont

To Army Medical School, Washington, D. C., for duty, from New York City, Capt. FREDERICK E. CLARK, Burlington.

To Camp Joseph E. Johnston, Jacksonville, Fla., to examine the troops in his specialty, Capt. ALAN D. FINLAYSON, Burlington.

To Fort Oglethorpe, for instruction, Lieut. LEONARD B. ROWE, Orwell.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Lieut. VICTOR P. GENGE, Newport.

Virginia

To Camp Lee, Petersburg, Va., base hospital, from Philadelphia, Lieuts. JOSEPH F. GEISINGER, ALVAH L. HERRING, Richmond.

To Camp Pike, Little Rock, Ark., to examine the troops for mental and nervous diseases, from New York City, Lieut. FRANK H. REDWOOD, Richmond.

To Camp Wadsworth, Spartanburg, S. C., for temporary duty in base hospital, from Fort Screven, Lieut. THOMAS H. ODENEAL, Richmond.

To Camp Zachary Taylor, Louisville, Ky., base hospital, from St. Louis, Lieut. ROBERT J. EVANS, Jr., Hopewell.

To Fort Oglethorpe, for instruction, Lieut. THOMAS J. KAGEY, Newport News; from Camp Lee, Lieut. RALPH M. THOMPSON, Purcellville.

To Fort Totten, N. Y., Fifty-Seventh Artillery Regiment, from Fort Totten, Lieut. ERIK T. SANDBERG, Cardinal; from Fort Oglethorpe, Lieut. WILLIAM B. TROWER, Eastville; Fifty-Eighth Artillery Regiment, from Fort Oglethorpe, Lieut. GEORGE V. LITCHFIELD, Abingdon.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Richmond, Capt. FREDERICK M. HODGES, Richmond.

To San Antonio, Texas, for duty, from Mineola, L. I., N. Y., Capt. JOSEPH N. BARNEY, Fredericksburg; Kelly Field, for duty, Lieut. SAMUEL R. BROWN, Norfolk.

To South San Antonio, Texas, Kelly Field, for duty, Lieut. WILLIAM S. KEISTER, Norton.

To his home and honorably discharged, Lieut. JOHN B. HALLIGAN, Petersburg.

Washington

To Camp Jackson, Columbia, S. C., and *Camp Hancock*, Augusta, Ga., to assist in the nutritional survey, and on completion *to his proper station*, Lieut. ROLLA B. HILL, Colfax.

To Camp Lewis, American Lake, Wash., base hospital, Capt. WILLIAM H. AXTELL, Bellingham; for duty, Lieut. GRANGE EDWARDS, Seattle.

To Fort McPherson, Ga., Hospital Unit "C," Lieut. RICHARD E. ELVINE, Spokane.

To Fort Riley, for instruction, Lieut. WHITING S. MITCHELL, Sumner.

To his home and honorably discharged on account of being physically disqualified for active service, Capt. IRA C. BROWN, Seattle.

West Virginia

To Camp Greene, Charlotte, N. C., Fifty-Eighth Infantry, from Fort Oglethorpe, Lieut. HERBERT C. KINCAID, Summerville.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. WILLIAM O. HEARN, Bluefield.

To Camp Meade, Annapolis Jct., Md., for duty, from Fort Oglethorpe, Lieut. RUFUS E. WOODALL, Bentree.

To Fort Oglethorpe, for instruction, Lieut. WILLIAM G. SLUSHER, Bluefield.

Wisconsin

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. RALPH T. GILCHRIST, Milwaukee.

To Boston, Mass., Fifty-Fifth Artillery Regiment to be organized in the coast defense of Boston, Lieut. DANIEL B. RILEY, Milwaukee.

To Camp Fremont, Palo Alto, Calif., headquarters and military police and ammunition trains, from Fort Riley, Lieut. JOHN H. PRILL, West Salem.

To Fort Logan H. Roots, Arkansas, for temporary duty, from St. Louis, Lieut. CHARLES B. RYDELL, Superior.

To Fort Riley, for instruction, from Camp Robinson, Lieut. THOMAS C. CLARKE, Oconto.

To Hoboken, N. J., for duty, from Camp Mills, Lieut. THOMAS MILLER, Oconomowoc.

To Rockefeller Institute, New York, for instruction in laboratory work, from Fort Oglethorpe, Lieut. HERMAN A. HEISE, Madison.

To South San Antonio, Texas, for duty, Capts. FRANK F. BOWMAN, Madison; CARL J. ROLLEFSON, Superior.

To his home and honorably discharged on account of being physically disqualified for active service, Capt. CLEMENT P. DOUGHERTY, Richland Center; Lieut. DONALD C. MILLER, Spencer.

Wyoming

To South San Antonio, Texas, Kelly Field, for duty, Lieut. EARLE R. VAN COTT, Diamondville.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. CHARLES M. FREEMAN, Rock Spring.

CORRECTIONS

Under "Orders to Officers of the Medical Reserve Corps" in the issue of December 15:

To Camp Greene, Charlotte, N. C., for duty, from Army Medical School, Lieut. JOHN J. MOORE, of Soldiers Home, Calif., instead of Pottsville, Pa.

Issue of November 24: *To New York City*, as member of examining board and recruiting officer, from Physical Examining Unit, Aviation Section, Capt. DAVID H. WEBSTER, of New York City, instead of Rudyard, Mich.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ILLINOIS

New Officers.—At the annual meeting of the Peoria Medical Society, December 18, the following officers were elected: president, Dr. Edward E. Barbour; vice presidents, Drs. Rolland L. Green and Edgar E. Gelder, and secretary-treasurer, Dr. Leir A. Burhans.

Personal.—December 27, Dr. John A. Koch was elected president of the staff of physicians of St. Mary's Hospital, Quincy, succeeding Dr. Otis Johnston, and on the following day he resigned as president of the staff and from the staff of the hospital.——Dr. John W. Seids, Moline, has been appointed physician to the Deere Works, succeeding Dr. Henry Arp, resigned, to enter military service.

Reciprocal Relations.—The Department of Regulation and Education of Illinois has established reciprocal relations on the basis of an examination only with Arkansas, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Minnesota, Missouri, Nebraska, Nevada, New Jersey, North Dakota, Utah, Vermont, West Virginia, Wisconsin and Wyoming; and on the basis of a diploma from a recognized medical college without an examination, in case the diploma and license were issued prior to July 1, 1899, with Michigan and Ohio.

Chicago

Antitoxin Needed.—As the city supply of diphtheria antitoxin is exhausted, Health Commissioner Robertson has asked the finance committee for an appropriation of $2,500 for the purchase of an additional supply.

Military Banquet.—The Physicians' Club of Chicago announces that on Tuesday evening, February 5, at the Auditorium Hotel, a military banquet will be given in honor of the members of the club who are in active military service.

Visiting Nurses Meet.—The twenty-eighth annual meeting of the Visiting Nurses' Association of Chicago was held in the Blackstone Hotel, January 9, under the presidency of Mrs. Arthur Aldis. Dr. Frank Billings delivered an address on "Russia."

Polish Physicians Elect.—At the annual meeting of the Polish Medical Society, held December 28, the following officers were elected: president, Dr. Waldyslaw A. Kuflewski; vice president, Dr. Anthony Balcerzak; secretary, Dr. Felicia H. Cienciara, and treasurer, Dr. Alexander Pietrzykowski.

Drug Seller Sentenced.—Dr. Arthur L. Blunt, found guilty, January 2, on twelve counts, of violation of the Harrison Narcotic Law, was sentenced to imprisonment for five years in the Federal Prison at Fort Leavenworth, and to the payment of $12,000 fine. An appeal was taken and he was released on bail.

Personal.—The home of Dr. Camillo Volini was partially wrecked by a bomb, December 31.——Dr. Charles P. Caldwell has resigned as president of the Municipal Tuberculosis Sanatorium on account of pressure of personal business and duties connected with his services as a member of the exemption board of his district.

The Making of Surgical Dressings for France.—The French Red Cross Committee of the Alliance Francaise opened a workshop, December 12, at Room 406, Fine Arts Building, for the making of surgical dressings to be sent to the French Red Cross. This shop is open on Wednesday and Friday afternoons from 2 to 5 o'clock.

KENTUCKY

Personal.—Dr. Frederick D. Reardon, Bowling Green, has been elected city health officer, and has also been appointed local surgeon of the Louisville and Nashville system.——Dr. Ezra O. Witherspoon, city health officer, and Dr. Thomas M. Dorsey, city chemist, Louisville, have resigned.——Dr. Thomas H. Baker has succeeded Dr. W. Edward Grant as health officer of Louisville.

New Officers.—At the annual meeting of the Jefferson County Medical Society, held in Louisville, December 12, the following officers were elected: president, Dr. Elmer L. Henderson; vice presidents, Drs. Siegel C. Frankel and Leo Bloch; secretary, Dr. Claude G. Hoffman, and treasurer, Dr. W. Hamilton Long. It was announced that more than one-half of the members of the society had volunteered for military service.

Social Service Department.—One of the first actions taken by Dr. Henry E. Tuley on assuming office at the Louisville City Hospital was the reopening of the Social Service Department under the charge of Miss Mary Alexander. The most important portion of this work will be the following up of patients after leaving the hospital.——An informal house warming was given to the members of the Jefferson County Medical Society by Dr. and Mrs. Henry Enos Tuley, at the Louisville City Hospital, January 7. The reception followed the regular meeting of the society.

MARYLAND

Opening of New Wards.—The new private floor and wards of the Maryland General Hospital, which have just been completed, were opened for general inspection, January 8.

Japanese Physicians in Baltimore.—Prof. Noborn Ishida, who has the chair of psychology in the Nagasaki Medical College, Japan, and Prof. T. Matsamoto, who holds a similar position at Chiba, Japan, both of whom are in this country studying the care of the insane, are now at the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital, where they will remain for several months and pursue their work.

To Fight Pneumonia.—Announcement has been made in a *Bulletin* of the health department that means to control the spread of lobar pneumonia, now known to be communicable, will be adopted by the enforcement of the regulations and precautions which have been successful in restricting the spread of diphtheria and scarlet fever, with suitable modifications. Dr. William T. Howard, Jr., assistant commissioner of health, draws attention to the fact that a recent study in New York has emphasized the importance of race in relation to the death rate from pneumonia. The rate is relatively low among Germans, Russians and Hungarians in that city, while the rate for Italian children is particularly high, ranging from three and a half times that of children of German mothers to a little more than double that of children of American mothers. The Irish and the negro races are said to be peculiarly susceptible.

MASSACHUSETTS

War Meeting of Society.—The semiannual meeting of the Essex North District Medical Society was held, January 2, in Haverhill. Dr. Eugene A. Crockett, Boston, spoke on "Medical Work in Serbia." Dr. D. Frederick E. Jones, Boston, on "A Base Hospital in War," and Capt. J. Forrest Burnham, M. R. C., U. S. Army, Lawrence, on "The Making of a Medical Officer."

Personal.—An abdominal operation was performed on Dr. James Marsh Jackson, Boston, at the Massachusetts General Hospital, December 24.——Dr. Edward S. O'Keefe, Lynn, has been appointed assistant in the Children's Medical Out-Patient Department of the Massachusetts General Hospital, Boston.——Dr. Joseph E. Mercer, Valley River, was elected president of the Calumet Club, December 13.

Halifax Thanks Massachusetts.—Lieut.-Col. MacKelvy Bell, Halifax, N. S., has sent a telegram to Col. William A. Brooks, surgeon-general, M. V. M., thanking Massachusetts for the royal service rendered by the Medical Unit of the National Guard, which was sent to Nova Scotia immediately on receipt of the news of the explosion, and was the first relief unit from the United States to reach the stricken city.

Free Public Medical Lectures.—A free course of public lectures on medical subjects is offered by the medical faculty of Harvard University at the medical school, Longwood Avenue, Boston, beginning January 6 and ending April 21, 1918.

The lectures are being given Sunday afternoons at 4 o'clock by foreign and local distinguished medical men, including a number of Army officers. The schedule follows:

January 6—Major William F. Snow, M. R. C., U. S. Army, "Social Hygiene and the War."
January 13—Dr. W. T. Porter, "Surgical Shock."
January 20—Dr. G. H. Wright, "Teeth and Their Relation to Human Ailments"; a plea for conservation.
January 27—Miss Elizabeth Sullivan, "Home Nursing," with demonstrations.
February 3—Dr. Richard M. Smith, "Child Welfare During the War."
February 10—Miss Mary Beard, "Child Welfare."
February 17—Dr. E. H. Bradford, "Shoes and Structure of the Foot."
February 24—Bishop Lawrence, "Social Infection and the Community."
March 3—Dr. L. W. Baker, "The Deformed Mouth of a Child; Its Effect on the Child's Future."
March 10—Dr. L. J. Henderson, "Food: How to Save It."
March 17—Dr. F. W. White, "What to Eat During War."
March 24—Dr. Percy G. Stiles, "Some Aspects of Fatigue."
March 31—Major Glenn L. Jones, M. C., U. S. Army, "Camp Sanitation and Control, and Hospital Administration at Camp Devens."
April 7—Dr. J. Bapst Blake, "Accident and Injury, First Aid," with simple demonstrations.
April 14—Dr. E. H. Place, "Immunity to Contagious Disease."
April 21—Dr. I. Chandler Walker, "Hay Fever and Asthma."
April 28—Dr. Julius Levy (under the National Food Committee), "Food Administration During the War."

MINNESOTA

New Society Organized.—The Stillwater Medical Society was organized, December 22, and Dr. Burton J. Merrill was elected president; Dr. W. H. Pratt, vice president, and Dr. George E. Clark, secretary.

Tri-County Sanatorium Opened.—The Tri-County Sanatorium, for Marshall, Pennington and Roeau counties, Thief River Falls, is now completed. The formal opening ceremonies were held, December 28, and the first patients were received in the institution, January 1.

The Mayo Trail.—More than $300,000 will be expended in the improvement of the Burlington Trail, which is to be known as the Mayo Trail in honor of the Mayos of Rochester. The trail leads from the Iowa line, through Fillmore, Goodhue, Olmsted and Dakota counties, to Minneapolis and St. Paul.

District Association Meeting.—The annual meeting of the Red River Valley Medical Association was held in Crookston, December 28. St. Paul was selected as the next place of meeting. Dr. Herman A. Froehlich, Thief River Falls, was elected president; Dr. Franklin M. Dryden, Crookston, vice president, and Dr. Ralph L. Kirsch, Crookston, secretary-treasurer.

Personal.—Dr. Ellsworth Hayden Trowbridge, formerly assistant superintendent at the Minnesota School for Feeble-Minded, Faribault, has established a private school for the training of unusual children near Kansas City, Mo.——Dr. Julius P. Sedgwick, Minneapolis, has returned after a stay in France.——Dr. Frank L. Durgin, Winnebago, has given up his practice on account of atrophy of the optic nerve.

State Board News.—Drs. Thomas Lowe, Pipestone, and George E. Putney, Paynesville, were reappointed members of the State Board of Medical Examiners, December 26.——Dr. George Douglas Head, Minneapolis; Charles W. More, Eveleth; Neill M. Watson, Red Lake Falls, and Roscoe C. Hunt, Fairmont, have been appointed members of the state board of health, succeeding Drs. William A. Jones, Minneapolis, Henry Longstreet Taylor, St. Paul, and Ferdinand N. Hunt, Fairmont.

MISSISSIPPI

Appropriation for Hospital.—At the next session of the legislature a request will be made for an appropriation of $25,000 to build a new hospital at the Beauvior Soldiers' Home, to take the place of the old building now in use.

State Board Officers.—At the annual meeting of the State Board of Health, held in Jackson, the following officers were elected: president, Dr. Charles D. Mitchells, Pontotoc; and vice presidents, Drs. Felix J. Underwood, Nettleton; William H. S. Frizell, Brookhaven, and Dr. George Baskerville, Winona. Dr. Waller S. Leathers, University, executive officer of the board, continues as secretary ex officio.

Reciprocal Relations.—The Mississippi State Board of Health now reports that reciprocal relations have been established with Alabama, Arkansas, California, Colorado, Delaware, District of Columbia, Georgia, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, West Virginia and Wisconsin.

NEW YORK

Eugenic Records Given to Carnegie Institution.—Mrs. E. H. Harriman has donated the Eugenic Record establishment at Cold Springs Harbor, L. I., to the Carnegie Institution at Washington, D. C. She has also donated a fund that yields $12,000 a year for the maintenance of the work. This conveyance is made to insure a continuance of the work.

Personal.—Dr. Edward F. Brush has been elected mayor of Mount Vernon.——Dr. Eugene H. Porter, Upper Lisle, formerly state commissioner of public health, has been appointed commissioner of foods and markets, succeeding John J. Dillon.——Dr. John R. Ross, Dannemora, has been appointed acting superintendent of the Dannemora State Hospital for the Criminal Insane, succeeding Dr. Charles H. North, deceased.

Visiting Nurses for County Hospitals.—An amendment to the New York county hospttals laws passed in 1917 requires the board of managers of each county tuberculosis hospital to employ a visiting nurse. Their duties are to discover persons with tuberculosis, get them into the hospitals, visit discharged patients at their homes, help them get back on a self-sustaining basis, and instruct and assist patients who do not go to the hospitals. The State Civil Service Commission, in carrying out the provisions of this amendment, announced an examination, open to graduate nurses of the state, for the position of visiting nurse to the county tuberculosis hospitals. The examination was held December 8. Positions were open in the following counties: Cattaraugus, Fulton, Jefferson, Onondaga, Ontario and Rensselaer. The salaries range from $800 to $1,200 a year and traveling expenses. Positions in other counties will likely be opened in the near future.

Motor Deaths in 1917.—The annual report of the National Highways Protective Society shows that in New York State, including New York City, there were 837 persons killed by automobiles, as compared with 729 for the preceding year. Col. Edward S. Cornell, secretary of the society, states that there has been an increase of about 100 per cent. in fatalities in five years. The same is said not to be the case in New Jersey, Massachusetts and Connecticut. Ninety-eight persons were killed at railroad crossings in the state of New York in 1917 as compared with eighty-two during the preceding year, and 122 in 1915. It is noticeable that the grade crossing accidents do not increase at the same ratio as other accidents. In this connection it is interesting to note that Dr. Wynne (*New York Medical Journal*, Dec. 22, 1917) points out that while there has been an increase in the number of deaths due to automobile accidents in New York City, and also in the rate per hundred thousand population, the proportion of such deaths to the number of automobiles operated has steadily decreased since 1908.

New York City

Noguchi Under Operation.—Dr. Hideyo Noguchi, pathologist of the Rockefeller Institute for Medical Research, was operated on, December 19, for appendicitis.

Harvey Society Lecture.—The fifth lecture of the Harvey Society series, given at the New York Academy of Medicine, January 12, by Prof. Henry C. Sherman of Columbia University was on "Food Chemistry in the Service of Human Nutrition."

New Dean for Fordham.—Dr. Joseph Byrne, professor of neurology in Fordham University, School of Medicine, has been appointed dean of the school, succeeding Dr. William P. Healy, resigned. Dr. Healy continues with the school as professor of gynecology.

Death Rate from Pneumonia Continues to Rise.—According to figures given out by the department of health, there were, for the week ended December 29, 1,501 deaths in this city, 314 of which were due to pneumonia. This is an increase of fifty-six deaths from this cause over the preceding week.

Government Declines Offer of Sanatorium.—The municipal authorities recently offered the Otisville Sanitarium to the government for a medical depot, but the offer included a clause permitting its revocation on thirty days' notice in writing to the Secretary of War. The government has declined this offer.

Work of Posts' Committee.—This committee, which was organized with the purpose of furnishing 100 ambulances for the Italian front, has reached its goal. In addition to having provided 100 ambulances, it has established five barracks hospitals and thirty-two tent hospitals, the latter having been furnished at the request of Italian authorities.

Campaign for Jewish Charities.—Several hundred directors and trustees of local Jewish institutions met, January 3, at the home of Adolph Lewisohn to formulate plans to raise $4,500,000 during the coming year. The Federation for the Support of Jewish Philanthropic Societies will begin this campaign, January 14. Hitherto the funds have been contributed largely by a comparatively few men of means. The present campaign will endeavor to distribute this burden more widely by securing a larger membership. Mr. Richard Lewisohn has offered to increase his subscription from $40,000 to $50,000 if 50,000 new members can be obtained. The federation now has eighty-four institutions affiliated with it.

Board of Health Regulates Laundries.—The department of health some time ago published the results of an investigation of the laundries of the city from a sanitary and bacteriologic standpoint which showed that there was need of the adoption and enforcement of regulations in order to safeguard the health of those engaged in this industry, as well as the public at large. The board of health, Dec. 19, 1917, adopted definite regulations relating to the character of the floors, light and ventilation of laundries, requiring the provision of suitable water closet accommodations and the instalment of safety devices on all machinery. Further regulations were adopted dealing more directly with the clothing to be washed, and providing for the safeguarding of the health of employees.

The Passing of the Coroner.—With the arrival of Jan. 1, 1918, the office of coroner ceased to exist in New York. The duties formerly performed by the coroners will under the new order of things be performed by a chief medical examiner, the police court and the district attorney. Under the old law the coroner held his own court and called his own jury. Under the new law, investigation will be had before the police magistrate in whose district the case occurs, and without jury. The chief medical inspector will receive reports from his deputies—successors of the coroner's physicians—and will take such cases as warrant it before the police magistrate. Dr. Patrick D. Riordan has been appointed chief medical inspector pending a civil service examination of candidates for the position.

Annual Meeting of New York Academy of Medicine.—The annual meeting of the New York Academy of Medicine, held January 3, was devoted to the presentation of the annual reports. The academy has at present 200 fellows in the service. The opposition to the probate of the will of the late Dr. Rudolph Witthaus has been withdrawn, and the rights of the academy as a present beneficiary and a residuary legatee are established; the academy is now receiving about $4 000 a year from this source. The report of the library committee, which was submitted by Dr. Haven Emerson, shows that the library now possesses 108,652 volumes, not including duplicates, an increase of 3,136 books for the year. The number of readers registering in the library during the year was 24,750, including holiday and Sunday readers; the number of readers in 1908 was 16,422.

PENNSYLVANIA

County Society Collects for Officers.—The Clearfield County Medical Society during two months collected $116.93 to be turned over to members absent on military service.

Personal.—Dr. Wallace R. Hunter, Erie, has been reappointed a trustee of the State Hospital for the Insane at Warren.——Dr. Edward M. Green, clinical director of the Georgia State Sanatorium, has been elected superintendent of the State Lunatic Hospital at Harrisburg, to succeed Dr. Henry L. Orth.——Dr. Rollen L. Shinaberry, Scranton, who was shot and seriously wounded, December 17, is reported to be making good progress toward recovery.

Philadelphia

Christmas Reception and Luncheon.—The College of Physicians of Philadelphia gave a reception and luncheon at the Hotel Rittenhouse, Christmas Day, in honor of the officers of the Medical Reserve Corps of the United States Army, stationed in Philadelphia for a course of instruction.

Polyclinic to Merge with Med.-Chi.—The Polyclinic has agreed to merge with the Medico-Chirurgical Post-Graduate School of the University of Pennsylvania, which was formed about a year ago by the merger of the University of Pennsylvania and Medico-Chirurgical Medical College. The petition for approval of the new merger was filed in Common Pleas Court No. 5, December 27, by John C. Bell, chairman of the merger committee. The present faculty of the Polyclinic Hospital will be retained for the present. When the reorganization is effected there will be changes.

Personal.—Dr. Edward A. Schumann has been made lecturer on obstetrics in Jefferson Medical College.——Drs. Samuel Wolf and Rae S. Dorsett have been appointed members of the staff of the Philadelphia General Hospital.——Lieut. Hugh C. Boyle is reported by General Pershing to have been seriously wounded, December 7, in action, somewhere in France. Lieutenant Boyle was attached to the Second Durham Light Infantry.——Dr. H. Bernard Cohen has been appointed director of school medical inspectors, to succeed Dr. Walter S. Cornell, resigned to enter military service.

WISCONSIN

Fire in Maternity Hospital.—Fire in the Maternity Hospital, Racine, December 30, caused $500 damage, and necessitated the transfer of the patients and infants to St. Luke's Hospital and the Children's Hospital, but no casualties occurred.

New Officers.—Ashland-Bayfield-Iron County Medical Society, at Ashland December 24: president, Dr. Mathew S. Hosmer, Ashland; secretary, Dr. Clyde J. Smiles.——Dane County Medical Society, at Madison, December 22: president, Dr. Lawrence H. Prince; vice president, Dr. Thomas W. Tormey; secretary-treasurer, Dr. Walter H. Sheldon, all of Madison.

Anesthetists Need Not Be Physicians.—An opinion given by the attorney general of Wisconsin to Dr. Oscar Lotz, Milwaukee, member of the medical board, December 17, states that "The giving of an anesthetic under the direction of a physician does not require the anesthetist to hold a medical license, and this practice is, therefore, not to be considered as a violation of the statute."

Tri-County Sanatorium.—A sanatorium for the care and treatment of tuberculous patients will be established by Ashland, Bayfield and Iron counties, and all three of the counties have endorsed a plan and voted to bond the three counties for the sum necessary for the establishment of the institution. By this bonding plan, $90,000 is provided, $40,000 of which was voted by Ashland County, $30,000 by Bayfield County and $20,000 by Iron County.

Personal.—Dr. George C. Ruhland, Milwaukee, took the oath of office as health commissioner, January 2, succeeding Dr. Lewis J. Daniels, who had been acting as locum tenens during Dr. Ruhland's absence on military duty.——Dr. John M. Dodd, Ashland, has been made chairman of the anti-saloon campaign to be conducted in Ashland County.——Dr. Edward H. Dudley, Janesville, slipped on the steps of his house, December 17, fracturing his skull.

Provision for Families of Medical Officers.—At the annual meeting of the Milwaukee County Medical Society, held December 13, it is announced that twelve citizens of Milwaukee, who desire to remain unknown, have subscribed a total of $775 each month for the aid of families of Milwaukee physicians who have entered the military service. Dr. George H. Fellman was elected president of the society; Dr. Gustav J. Kaumheimer, vice president; Dr. Daniel Hopkinson, secretary, and Dr. Arthur R. F. Groh, treasurer.

CANADA

Hospital News.—The London, Ont., Health Association, at a meeting held on the afternoon of January 4, completed arrangements to open the new $200,000 hospital for tuberculous soldiers at the Byron Sanatorium, January 21. The Duke of Devonshire will officiate. Sir Adam Beck personally raised $28,000 of the funds necessary for the work.

Personal.—Col. Frederick G. Finley, Montreal, has been created a Companion of the Bath.——Col. Wallace A. Scott, Toronto, has been created a Companion of the Order of St. Michael and St. George.——Major Andrew Macphail, Montreal, editor of the *Canadian Medical Association Journal* and of the university magazine, has been knighted.——Brig.-Gen. Ernest C. Ashton, Brantford, Ont., has been created a Companion of the Order of St. Michael and St. George.——Lieut.-Col. John A. Amyot, Toronto, professor of hygiene and preventive medicine in the University of Toronto, has been

created a Companion of the Order of St. Michael and St. George.——The following medical officers have received the Distinguished Service Order: Major Arthur C. Jones, Kilbride, Ont.; Capts. Herbert C. Allison, London, Ont.; Robert J. Gardiner, Saskatoon, Sask., and Richard Herald, Vancouver, B. C.——Dr. Edith H. Gordon, Toronto, University of Toronto, 1915, has been appointed assistant medical adviser of women at Cornell University.

Public Health News.—Col. John W. S. McCullough, chief medical officer of the Ontario Board of Health, Toronto, is cooperating with the Committee for the Prevention of Venereal Diseases in the distribution of pamphlets among the physicians and surgeons of Ontario. The educational campaign being carried on by the associated committees throughout the province is making headway. The Academy of Medicine, Toronto, is also lending material aid in the campaign.——Dr. Maurice M. Seymour, public health commissioner for the province of Saskatchewan, acting under the provisions of the public health act of that province, announces that in future all venereal diseases will have to be reported in that province. Those suffering therefrom must at once seek treatment and remain under the care of a physician continuously until a cure has been effected. The physician must report the case to the commissioner of public health within three days of the patient's first visit, together with other information relating to the patient and the family, but the name of the patient may be omitted unless the patient fails to report to his physician for thirty days, when the name and address must be sent to the commissioner, who may then take such steps as may be necessary for the treatment of the patient.—— The work of the medical relief committee at Halifax, N. S., owing to the recent catastrophe overtaking that city, has been well organized under Colonel Bell. About 600 persons injured in the explosion are still under treatment in the various hospitals; and the discharge of patients has been so rapid that there are now very few outside doctors and nurses doing work in Halifax. Capt. William H. Hattie, Halifax, N. S., provincial officer of health, states that a great deal of work will have to be done later in connection with putting in false eyes and the remodeling of torn and scarred faces. Fears regarding the epidemics of contagious diseases have not been realized, attributable to the large number of doctors and nurses who patrolled Halifax immediately after the explosion, and at once reported any insanitary condition.

GENERAL

Southern Surgeons Meet.—The annual meeting of the Southern Surgical Association was held in St. Augustine, Fla., December 20 and 21. Dr. Isaac S. Stone, Washington, was elected president, and Dr. Guy L. Hunner, Baltimore, treasurer. Baltimore was selected as the next place of meeting.

Correction.—The item which appeared in THE JOURNAL, Nov. 17, 1917, p. 1723, announcing the marriage of "John C. Reed, M.D., Duquesne, Pa., to Miss Lillian Bennethum of Harrisburg, Pa., October 24," was incorrect. The John C. Reed whose marriage was thus announced is a dentist of Harrisburg, Pa.

Tuberculosis Workers to Meet.—The next annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held in Boston, June 6-8.——The American Climatological and Clinical Association will meet in the same city, June 5 and 6. The following are section chairmen: Clinical section, Dr. Walter R. Steiner, Hartford, Conn.; sociology section, Mrs. James Minie, Chicago; advisory council, Dr. George Thomas Palmer, Springfield, Ill.

Annual Meeting of the Federation of State Medical Boards.—The Federation of State Medical Boards will hold its regular annual meeting, Feb. 4 and 5, 1918, at the Congress Hotel, Chicago. The Monday meeting will be held in the afternoon, and will be a joint session with the Council on Medical Education, the program of which was published last week. The paper to be given by Mr. Harry Eugene Kelly, however, will be given at the Tuesday meeting, and not on Monday, as announced. Instead there probably will be a paper on the National Service School. The Tuesday program is as follows:

"State Medical Boards," Dr. Charles B. Pinkham, secretary, California State Board of Medical Examiners, San Francisco.

"Uniformity of Reciprocity Applications," F. C. Dodds, superintendent of registration, Department of Registration and Education, Springfield.

"Sectarianism in the Science of Healing as Treated in Legislative Acts and Judicial Decisions," Harry Eugene Kelly, Chicago.

There will also be the regular annual business meeting, including the reports of standing committees.

Annual Meeting of the Association of American Medical Colleges.—The annual meeting of the Association of American Medical Colleges will be held at the Congress Hotel, Chicago, Feb. 5, 1918, the day following the fourteenth annual conference of the Council on Medical Education. At this meeting addresses will be given as follows:

"Courses for Military Training for Medical Officers," Dr. Edward H. Bradford, dean of Harvard University Medical School, Boston.

"Arrangement of Work in Internal Medicine," Dr. Charles P. Emerson, dean of Indiana University School of Medicine, Indianapolis.

"Entrance Conditions After January 1, 1918," Dr. Harley E. French, dean of University of North Dakota School of Medicine, University.

"The Teaching of Medicine: A Retrospect and a Forecast," Dr. John Van de Erve, associate dean of Marquette University School of Medicine, Milwaukee.

"Administration of the Two Years' Requirement," Dr. Walter H. MacCracken, secretary of Detroit College of Medicine and Surgery, Detroit.

These addresses will be followed by the regular annual business session, which will include the reports of several standing committees.

FOREIGN

Deaths Abroad.—Dr. **Tanemichi Aoyama,** one of the imperial court physicians of Japan, aged 58, a member of the faculty of the Imperial University of Tokyo since 1888, dean of the faculty and editor-in-chief of the official organ of the college; died in Tokyo, December 22, from nephritis.—— Sir **C. P. Lukis,** director general of the Indian Medical Service for the last eight years, aged 60.——**A. Tamassio,** professor of legal medicine at the University of Padua for over twenty years, aged 68. His name is connected with the identification of criminals, and the pathologic anatomy in certain forms of dementia.——**O. Frederici,** professor of obstetrics and gynecology at the University of Rome, and member of the editorial staff of the *Clinica Ostetrica.*

Professional Interests in Colombia.—Dr. J. M. Montoya of Bogota, S. A., comments editorially in the *Repertorio de Medicina y Cirugia* on the failure of the legislature to pass the bill providing for the regulation of the practice of medicine. Year after year, he laments, some bill on the subject comes up for discussion, and it is lobbied on to the table. This year a physician member of the house was responsible for the failure of the bill to receive consideration. It was already at the second debate when he proposed to add a rider to the effect that sanatoriums founded in Colombia by alien physicians should be heavily taxed. This gave the foes of scientific medicine a chance to attack the proposed law as exclusively favoring diplomaed physicians, and that the welfare of the public was not considered in the bill. The years are passing, Montoya remarks, and nothing has yet been done in Colombia to establish the fundamental bases on which the structure of public health should be built up.

The National Medical Congress in Cuba.—The medical profession in Cuba announces the great success of the fourth triennial national medical congress, which closed its six day session at Havana, Dec. 22, 1917. The attendance was unprecedented, and many works of practical and general interest, showing the scientific advancement of the medical profession in Cuba, are said to have been presented at this gathering. The sessions were held at the Academy of Sciences, and roused great enthusiasm. Dr. F. D. Roldan, secretary of public instruction, presided. The chairman of the executive committee, which deserves great credit for its success, was Dr. Aristides Agramonte, the survivor of the North American yellow fever commission. The secretary general was Dr. F. M. Fernandez, the ophthalmologist. Among the more important resolutions adopted by this representative gathering of the Cuerpo Medico Antillano were some expressing "fervent wishes for the triumph of the cause of the Allies, with whose ideals we are so closely identified"; "offering our help to the government in defense of our country"; "sending fraternal expressions of sympathy to the physicians, dentists, pharmacists and veterinarians of the allied armies." Another resolution warned the physicians of Cuba not to accept as sanctioned by the medical profession of Cuba the Garcia plan for treatment of leprosy until the method has been tried and tested by the committee which has been appointed for the purpose, and which is now studying it. Another resolution was an appeal to the government to make vaccination against typhoid compulsory, and also hospitalization of typhoid fever cases. Another resolution recommended to the government of Cuba the creation of an institution for

scientific research, and that it should be named the Santos Fernandez Institute. Three months before the meeting over 800 names had been registered. Dr. José A. Presno, founder and editor of the *Revista de Medicina y Cirugia*, was elected to preside at the next meeting. It is to be held in 1920, at Havana.

PARIS LETTER

PARIS, Dec. 13, 1917.

The War

RESULTS OBTAINED AT AN ADVANCED SURGICAL UNIT

At a recent meeting of the Surgical Society of Paris, Dr. H. Barnsby reported the results he had obtained during a period of forty-five days at an advanced surgical station attached to an evacuation center where only the severely wounded who could not be transported were operated on and hospitalized. The cases of this kind (open chest wounds, grave hemorrhages, multiple wounds with shock, penetrating wounds of abdomen) numbered 240. Among 28 cases of chest wounds there were 21 cures and 7 deaths. In the bleeding cases, with or without projectiles in the tissues, an immediate thoracotomy was done after the method of Pierre Duval (suture of lung, after removal of the projectile and hemostasis, cleansing of the pleural cavity and primary closure); of 14 cases, 10 were successful, 4 were failures. In the cases not complicated by hemorrhage or very little hemorrhage, especially the seton or plugged cases, in which orthopnea rather than hemorrhage was a prominent symptom, Barnsby excised the wound with bone and cartilage resection as needed, closing the wound immediately, as in the case of a wound of the soft parts. Among 14 cases, 11 were successful and 3 failures. Of 9 cases *in extremis*, which he believed to be inoperable, 8 terminated fatally; one patient lived. Among the severe cases of hemorrhage (patients arriving with tourniquet applied but bleeding nevertheless) there were 85 per cent. of cures in 26 cases (22 cures and 4 deaths). Among those having multiple wounds, and shocked, that is to say, patients covered with wounds (excluding abdomen, skull and thorax) with typical facies, no pulse, cold extremities (119 cases) there were 42 deaths, 65 per cent. recovering.

PENETRATING WOUNDS OF ABDOMEN

Barnsby called attention to those cases spoken of but little heretofore but which are as grave as they are deceptive. There were 60 cases of penetrating wound of the abdomen, with 21 deaths; (1) 17 had not been operated on (wounds of the upper abdomen): 13 cures, 4 deaths; (2) 2 cases of thoracico-abdominal wounds: the only patient operated on was saved; of the 6 patients not operated on, 2 died; (3) 36 cases operated on (not including 2 cases in which no viscera were wounded, 18 cures, 16 deaths). Among these cases were 16 in which only one viscus was wounded, 14 by shell fragments, and 18 in which many viscera were wounded, all by shell fragments.

WHEN TO OPERATE

Barnsby says that when these abdominal cases must be operated on at the front, laparotomy is the operation of choice. In these cases operation should be performed: (1) Patients arriving within ten hours after being wounded, in periods of calm or during action, should always be operated on, except when the wound is in the upper abdomen and the patient is pulseless; (2) patients arriving within ten to twenty hours should be operated on if the sector is quiet; during an action (except in cases of wounds of the upper abdomen, patient pulseless, seton wounds with good general condition) an exploratory laparotomy should be done. If the lesion is comparatively slight, or if operation can be performed rapidly, it should be done. If the lesions are multiple and grave, or if peritonitis is present, it is better not to insist on operation; (3) after twenty-four hours, do not operate; (4) thoracico-abdominal wounds: (a) the wound being thoracic rather than abdominal, with small fragment localized in the upper zone: do not operate; (b) ditto, with large fragment high up: make a thoracico-abdominal incision, giving the transpleural route preference; (c) if the wound is abdominal rather than thoracic; two separate operations (thoracic and abdominal) should be done if the condition of the patient permits.

ADVANCED SURGICAL STATION IS WORTH WHILE

Barnsby is convinced of the value of an advanced surgical station, with at least two experienced surgeons in charge. The surgeon should operate at once all abdominal cases, severe hemorrhagic cases, and open chest cases, bleeding or asphyxiated. He should, on the other hand, prepare certain patients (multiple wounds with shock, hemorrhage with shock in which the tourniquet has been used) so that a successful operation can be performed later. Patients on whom an immediate operation would prove fatal, can often be operated on successfully after carefully supervised and well controlled preparatory treatment.

Preparatory School of Medicine at Bordeaux

A preparatory school for the school of naval medicine is to be established temporarily by the Faculty of Medicine of Bordeaux. The purpose is to enable young men who intend to become physicians and pharmacists in the navy, or for colonial troops, to take up the first year of their course of study. They will be matriculated on written examination, and, on admission, pledge themselves to meet their military obligation. They will be lodged and boarded at the expense of the navy, and will also receive from the navy the tuition for the first year. After obtaining 4 credits these students will be enrolled in the active list of the fleet as sailor nurses for the duration of the war.

Decoration of the American Ambulance Section No. 5

This section has been awarded the red and green war cross. The order of General Petain, commander-in-chief of the armies of the north and northeast, awarding this distinction, says: "This unit has been cited twice for its splendid conduct before the enemy."

The American Exposition

The Franco-American committee will organize in Paris an exposition of American donations. The president is M. Louis Renault, president of the central committee of the French Red Cross. The affair will be held in honor of Americans. M. Louis Renault thanked and complimented the Franco-American Committee whose activities have not only been multiplied since the war began, but have borne many good results. Passing in review the various activities attesting the generosity of Americans, M. Renault spoke especially of certain efforts inspired by love, notably those directed toward the protection of children on the frontier, and the reconstruction of cities and villages. The speaker, after calling attention to the fact that four countries of South America, the Argentine Republic, Brazil, Chile and Uruguay, had each established a hospital, spoke of the assistance given France by the United States, praising its great generosity. He cited two instances in illustration: In one year, the American Red Cross founded or aided 1,700 hospitals, and 75,000 women of the United States have contributed to the relief of war victims. M. Germain Bapst set forth in detail the many and various means of assistance rendered by America to the French Red Cross.

Death of Medical Inspector Schneider

Medical Inspector Schneider, former director of the Service de Santé of the Twentieth Army Corps, died in the Val-de-Grâce hospital of a painful malady contracted in the service.

Death of Delanglade

Dr. Edouard Delanglade, professor of clinical surgery in the Marseilles School of Medicine and Pharmacy, and surgeon at the Hotel Dieu of that city, surgeon major of the first class, died of a fatal wound received while organizing a first aid station at the front in Alsace. Dr. Delanglade had been cited three times in army orders and had been nominated an officer of the Legion of Honor.

Immediate Intervention in Wounds of the Heart

At one of the recent sessions of the Surgical Society of Paris, Constantini and Vigot reported two cases of heart wounds by shell fragments in which they operated at once, thus saving the patients' lives. In one case the wound was very deep, but not penetrating the left ventricle. The projectile was lying free in the pericardial cavity. It was extracted and the wound sutured. Recovery was uneventful. The patient was discharged on the fifteenth day. In the second case, the left auricle was perforated, the opening admitting a pencil. The wound was sutured. Unfortunately a left-sided infective hemothorax developed. The pleural cavity was sterilized by means of neutral solution of chlorinated soda, and the patient was discharged in about seven weeks. A roentgenogram showed the shell fragment in the left lung.

Constantini and Vigot emphasized the diagnostic importance of a sign which, in the cases cited above, enabled them

to make a diagnosis of heart wound very quickly. The sign is the absolute immobility of the cardiopericardial shadow on roentgenographic examination. This fixed shadow is due to a hemopericardium. As to surgical intervention in these cases, the authors direct attention to the absolute necessity of operating in daylight to get a clear view. When an organ like the heart bleeds, one must explore gently and without unnecessary groping about. Therefore, a resection of the sternum is inevitable, and to avoid loss of time, the operation must be performed systematically. One may choose one of two methods: 1. A pedunculated flap, including the cartilages of the third, fourth and fifth ribs, obtained by making a transverse section of the sternum with partial resection of the left side of the sternum. This is almost what was done in the first case, except for the cartilage resection. 2. A chondrosternal pedunculated flap, including the third, fourth and fifth cartilages on the left side and the corresponding portion of the sternum. Such a window was cut out in the second case. It gave good access to the heart.

Increasing Prevalence of Scabies

Dr. Georges Thibierge, physician to the hospitals of Paris, presented a communication on this subject at a recent meeting of the Academy of Medicine. He stated that as in previous wars, the itch has made its appearance now, as much in military as in civil life. In the army, it has appeared in all the corps; it is often contracted during sexual intercourse; it is transmitted by unwashed and undisinfected clothing in which an infected person has slept, by bedding, etc. Among civilians, it is the same. Soldiers on furlough carry the parasite home from the front and transmit it to their wives and children; they leave it in the linen at the hotel where they have slept, the next occupant of the bed is infected, and thus the disease is spread. The number of patients treated in the hospitals of Paris in 1917 was more than three and one half times greater than in 1913. Among the well-to-do the proportion is still greater, having gone from 1 to 10 or 12 per cent. of all cases of skin disease. The insufficient washing of the linen in hotels and rooming houses, and the improper treatment applied in a large number of institutions, explain the propagation of the disease. On the other hand, failure to recognize this disease as being the cause of the pruritus which is attributed to eczema, urticaria, digestive disturbance and eating bread also is responsible for the persistence of the disease and its spread. The itch may be cured rapidly when it is recognized and treated properly.

Use of Hot Dressings Combined with Gutta Percha

At the same meeting, Dr. Bouët-Henry commended the use of liquid petrolatum and of paraffin as a very hot dressing, associated with an insulating body, which will enable the tissues to withstand temperatures higher than those of the usual hot bath or aqueous injection without burning or causing pain, and will retard the cooling of the mixture. She finds that the best agent for this purpose is gutta percha. To obtain the best results, one must use a paraffin with a melting point between 42 and 45 C. (107.6 and 113 F.). This paraffin, or the liquid petrolatum, is added to the gutta percha in the proportion of 1,000:50. This mixture will cool ten times more slowly than water of the same temperature. It can be applied without burning at temperatures varying between 70 and 90 C. (158 and 194 F.) and the dressing remains soft and compresses by reason of its elasticity.

Intrabronchial Foreign Body Evacuated Spontaneously After Two Years

At a recent meeting of the Medical Society of the Hospitals of Paris, Dr. D. Denéchau reported an interesting case. March 27, 1913, a woman accidentally swallowed a piece of the whalebone support of her collar. No immediate inconvenience resulted. In the course of the evening, retrosternal pain developed, increasing rapidly in severity, and reaching its maximum the next day. On the third day, the woman suffered from a constant dyspnea, without orthopnea but accompanied by a bronchitis of sudden onset. Soon cough, with bloody expectoration, was noted. A diagnosis of bronchopneumonia was made. The entire lung was in a state of congestion, imparting a woody tone on percussion, with almost complete absence of the vesicular murmur. April 10, Denéchau urged a roentgenoscopic examination, but it was not practicable, and bronchoscopy was negative. This state of affairs persisted for months, suggesting tuberculosis. Repeated bacteriologic examinations were always negative, and the inoculation of a guinea-pig was likewise negative. In March, 1915, the patient's condition was suggestive of emphysema with bronchial râles, and finally there appeared suddenly violent pains of a tearing nature in the back of the throat and in the chest. Some days later, at the height of a coughing spasm, the patient expectorated the piece of whalebone swallowed two years (less three days) previously.

Denéchau stated that the presence of foreign bodies in the bronchi is too often not recognized even by competent physicians. He also called attention to the syndrome of symptoms simulating tuberculosis, which may be caused by these foreign bodies, and to the speedy cure that resulted in his case on the spontaneous expulsion of the foreign body.

Gift to the Academy of Medicine

By presidential decree, the Academy of Medicine is authorized to accept an endowment representing an annual income of 1,000 francs, the gift of Mme. Lermoyez and MM. Hippolyte and Camille Labbé for the purpose of establishing a triennial prize of 3,000 francs to be known as the "Léon Labbé Prize." This prize will be awarded on the recommendation of the section on surgical pathology to any Frenchman who during the preceding three years has contributed most to surgical progress, so that he may continue his research. If no progress-making work has been done, the prize will not be awarded, and the academy may at the expiration of the next triennium award several prizes or one grand prize of 6,000 francs.

Personal

M. Painlevé is now president of the Academy of Sciences, succeeding M. d'Arsonval, whose term of office has expired. M. Léon Guignard, professor of botany at the School of Pharmacy of Paris, was unanimously elected vice president.

LONDON LETTER

London, Dec. 11, 1917.

The War

THE WAR AND THE PROFESSION

In his presidential address to the General Council of Medical Education and Registration, Sir Donald MacAlister said that the conditions created by the war are pressing on all departments of medical organization, straining to its limit the old machinery, and compelling the construction of new and extemporary devices. The medical duties of the army recruiting department have been transferred to the civilian ministry of national service. The new organization is designed to meet the national need for the better distribution of medical services as between the army and navy and the civilian population for the medical examination and classification of recruits for the various forms of national service, and for the conservation of our resources in the matter of candidates for medical qualifications. The withdrawal of students from the medical schools for combatant service has deprived the country of the necessary quota of new practitioners in the years 1918 and 1919. In January, 1917, a census of students engaged in professional study showed that in the third year of the curriculum we could count only on 752 men and 261 women to provide in 1919 for the necessary accession of new practitioners to the register. In normal times this accession should number about 1,100. Only by returning third year students, then on active service, could the deficiency be made good. In September the army council directed that students registered prior to Aug. 1, 1914, who had before enlistment completed two years of the curriculum, should be passed out of combatant service to resume medical study and proceed to qualification. The minister of national service has declared his intention to provide, if possible, that the supply of students in training shall be maintained at a level sufficient to insure the annual accession of at least 1,000 new physicians to the register. To effect this purpose it will almost certainly be necessary to extend the scope of the army council's instruction either by relaxing its restriction to students registered prior to Aug. 1, 1914, or by including second year students who on enlistment were sufficiently advanced to compass the second professional examination within a few months.

On the other hand, the Admiralty makes an urgent demand for capable third year students who have passed the professional examination in anatomy and physiology, and are able to render aid as surgeon probationers in the minor units of the navy. To withold these from their studies for an indefinite period of service would unduly postpone the date of their full qualification as physicians, and would proportionately diminish the number annually added to the register.

The medical director-general of the navy has accordingly arranged that the period of service of surgeon probationers shall not be longer than six months at home or twelve months abroad. The functions of a surgeon probationer being comparable with those of a surgical dresser or student assistant in surgical wards, licensing bodies generally have agreed to accept his surgical service afloat as equivalent to six months of the hospital attendance prescribed for the minimum curriculum. The Admiralty arrangement should therefore insure that most of the surgeon probationers will return and qualify within the normal period, and in the meanwhile they will have gained experience that may hereafter stand to their advantage as physicians.

The claims of the army for fresh drafts from the civilian members of the medical profession continue, though it has become a serious problem how the claims are to be met. A War Office committee, which included members of the Medical Council, visited the western front during the summer for the purpose of discovering what economies in personnel, if any, might be made in the medical corps. Its report is not yet issued, but it is questionable whether any practicable economy can be commensurate with the continuous wastage due to the incidents of warfare. The devotion and success of the medical corps in preserving and restoring the health of our troops have been recognized in the warmest terms by the highest authorities; but the service is rendered at a heavy sacrifice. On almost every page of the Medical Register some military distinction has been inserted. But too often the bearer's name has had to be marked "died on service." In the three years 1911-1913, the average number of names annually removed from the register "on evidence of death" was 620. In the year 1916 the number rose to 983.

OFFICERS OF THE AMERICAN MEDICAL SERVICE

The welcome cooperation of the United States of America in sending over medical units in advance of its troops has afforded the Allies some relief. Officers of the American Medical Service have accepted honorary or other temporary positions in hospitals at home and abroad, and have thus released British officers and physicians for other work. But we shall not be able to count on this help after the arrival in Europe of the American forces in full strength. And again we cannot count on American civilian physicians to furnish many accessions to our register. In the absence of American federal legislation authorizing professional reciprocity between the United States and Britain, the council has no power to admit American physicians to the register, unless they pass a recognized examination in medicine, surgery and midwifery in this country. Where such legislation, within or without the empire, has been accomplished, the council has not failed to give it effect. Already the foreign and colonial lists of the register include over 1,000 physicians, and their legal status in record to practice is the same as our own.

Marriages

LIEUT. HENNING O. LINDHOLM, M. R. C., U. S. Army, Escanaba, Mich., to Miss Mabelle S. Bayard of Chicago, at Camp MacArthur, Waco, Texas, December 21.

ACTG. ASST. SURG. JAMES GRAHAM MARSTON, U. S. P. H. S., Baltimore, to Miss Valerette Berndt of Forest Park, Baltimore, December 15.

HAROLD FLAVELL WESTCOTT, M.D., Bridgeton, N. Y., to Miss Grace Rushton of Clementon, N. J., at Laurel Springs, N. J., December 20.

LIEUT. HENRY EXUM AUSTIN, M. R. C., U. S. Army, New York City, to Miss Annie C. Bonner of Baltimore, December 24.

LIEUT. HARRY DELLMARR CONLEY, U. S. N. R., Jamestown, Va., to Miss Elsie V. Wilson of Philadelphia, December 17.

LOUIS SIEBENMORGEN, M.D., Terre Haute, Ind., to Miss Ruby Elizabeth Curtis of Paxton, Ind., December 25.

LEE SINCLAIR PRESTON, M.D., to Miss Ola Capron-Gypson, both of Oneida, N. Y., December 22.

EDWARD ROCHFORD COX, M.D., to Miss Ruth George Savage, both of Los Angeles, November 1.

LOUIS GILBERT WEHRLE, M.D., to Miss Irene Frances O'Brien, both of Chicago, recently.

SAMUEL B. GEISE, M.D., to Mrs. Cordelia Clark, both of Sunbury, Pa., December 23.

Deaths

Capt. William Elvis Harwood, M. R. C., U. S. Army, Joliet, Ill.; on duty with Base Hospital Unit No. 12, in France; died from pneumonia, January 7. Dr. Harwood was born in Joliet, Ill., Nov. 16, 1858; was graduated from Rush Medical College in 1880; and for several years practiced in Eveleth, Minn., where he was surgeon-in-charge of the Fabiola Hospital, and surgeon to several mining companies. He later returned to practice in Joliet, and when the Base Hospital Unit No. 12 was organized he volunteered for service, but was rejected on account of his age. He was later accepted on account of his successful work with the roentgen ray. On his arrival in France Dr. Harwood was promoted to a captaincy. He was a Fellow of the American Medical Association.

Charles Frederick Bevan, M.D., Baltimore; University of Maryland, Baltimore, 1871; aged 67; formerly a Fellow of the American Medical Association; dean and professor of principles and practice of surgery, clinical and general surgery, in the College of Physicians and Surgeons, Baltimore, from 1888 to 1912; dean of Mercy Hospital from 1901 to 1917; died at the Union Protestant Infirmary, Baltimore, December 27, from heart disease, following an operation on the intestines.

Charles Smith Allaben, M.D., Margaretville, N. Y.; College of Physicians and Surgeons in the City of New York, 1882; aged 62; a Fellow of the American Medical Association; county physician of Delaware County; while making a professional call, December 10, near Margaretville, was thrown from his automobile and sustained a fracture of the skull, dying from his injuries two days later.

William S. Alexander, M.D., Oxford, Ohio; College of Physicians and Surgeons, 1893; aged 51; a Fellow of the American Medical Association; local surgeon of the Cincinnati, Hamilton and Dayton and Pere Marquette systems; for many years a member of the village council and Butler County Board of Education; died at his home, December 22, from cerebral hemorrhage.

Alfred Coles Haven, M.D., Lake Forest, Ill.; University of Syracuse, N. Y., 1880; aged 60; a Fellow of the American Medical Association, and once president of the Lake County Medical Society; for two years surgeon for the Pacific Mail Steamship Company; one of the most prominent and beloved practitioners of northern Illinois; died at his home, January 3, from angina pectoris.

George Augustus Ostrander, M.D., Brooklyn; College of Physicians and Surgeons of the City of New York, 1858; aged 83; a charter member of the Medical Society of the County of Kings; who was the guest of honor at a testimonial dinner given by his colleagues in 1908 to commemorate the fiftieth anniversary of his entrance into practice; died at his home, December 26.

Samuel L. Kilmer, M.D., South Bend, Ind.; Rush Medical College, 1879; aged 68; a Fellow of the American Medical Association; for several years local surgeon of the Lake Shore, and Michigan Southern and Indiana, Illinois and Iowa railways; a member of the staff of Epworth Hospital, South Bend; died at his home, December 28, from heart disease.

Thomas Bakewell Hegeman, M.D., Brooklyn, N. Y.; College of Physicians and Surgeons in the City of New York, 1880; aged 49; a Fellow of the American Medical Association; died at his home, December 20, from the effects of a gunshot wound of the heart, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health.

Albert Dexter Kingsbury, M.D., Needham, Mass.; Georgetown University, Washington, D. C., 1869; aged 75; a Fellow of the American Medical Association; a veteran of the Civil War, and a member of the board of directors of the Wellesley National Bank; died suddenly, December 11, from heart disease while making a professional call in Needham.

Ensign Bennett Pardee, M.D., New York City; New York University, New York City, 1875; aged 64; visiting physician to the Homeopathic Hospital, Ward's Island, and the department of charities and correction from 1890 to 1893, and to the Metropolitan Hospital, Blackwell's Island, from 1893 to 1897; died at his home, December 28, from pneumonia.

Samuel R. Cates, M.D., Abilene, Texas; Kansas City (Mo.) Medical College, 1883; aged 64; formerly a Fellow of the

American Medical Association; a member of the State Medical Association of Texas; in 1908 secretary of the Taylor County Medical Society; died in Plainview, Texas, September 25, from carcinoma of the rectum.

John R. Stevenson, M.D., Haddonfield, N. J.; University of Pennsylvania, Philadelphia, 1863; aged 83; a Fellow of the American Medical Association; surgeon of U. S. Volunteers during the Civil War; a member of the borough council since its organization in 1897; died at his home, December 20, from pneumonia, following an accident.

Frank E. Burdick, M.D., Providence, R. I.; Syracuse (N. Y.) University, 1895; aged 46; a Fellow of the American Medical Association; president of the Providence Medical Society; a member of the visiting medical staff of the Rhode Island Hospital and of St. Elizabeth's Home; died at his home, December 26, from heart disease.

Glen Mitchell Litzinger, M.D., Baltimore; College of Physicians and Surgeons, Baltimore, 1898; aged 45; formerly a Fellow of the American Medical Association; associate professor of obstetrics in the University of Maryland, Baltimore; a member of the staff of Mercy Hospital; died at his home, December 26, from septicemia.

E. M. Nicholas Sasseville, M.D., Berlin, N. H.; Laval University, Montreal, 1890; aged 48; formerly a member of the New Hampshire Medical Society; a member of the legislature from Hillsboro County in 1893; formerly a member of the staff of Notre Dame Hospital, Manchester, N. H.; died at his home, December 14.

Edward A. Y. Schellenger, M.D., Camden, N. J.; University of Pennsylvania, Philadelphia, 1892; aged 47; a Fellow of the American Medical Association; formerly president of the Camden County Tuberculosis Hospital; a member of the surgical staff of the Cooper Hospital, Camden; died at his home, December 24.

Albert Lynch Lawrence, M.D., Washington, D. C.; Columbian University, Washington, D. C., 1896; aged 53; formerly a Fellow of the American Medical Association; a member of the Medical Society of the District of Columbia; died at his home, September 9, from uremia, consequent on prostatic hypertrophy.

Margaret Carsley Balabanoff, M.D., Tacoma, Wash.; Women's Medical College of the New York Infirmary for Women and Children, 1881; aged 65; formerly a Fellow of the American Medical Association; a member of the Washington State Medical Association; died at her home, December 24.

Granville E. Whittlesey, M.D., St. Louis; American Medical College, Eclectic, St. Louis, 1901; aged 55; died in his rooms in St. Louis, December 24, from the effects of a gunshot wound of the heart, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health.

W. O. Walker, M.D., Minneapolis; Medical College of Ohio, Cincinnati, 1862; aged 80; surgeon of U. S. Volunteers during the Civil War; died at his home, December 19, from the result of injuries received nine weeks before when he was struck by an automobile.

Julius Royal Fisher, M.D., Akron, Ohio; College of Physicians and Surgeons, Baltimore, 1910; aged 33; a Fellow of the American Medical Association, and a member of the staff of the People's Hospital; died at his home, December 23, from septicemia.

Omer LaRue, M.D., Putnam, Conn.; Ecole de Médecine et de Chirurgie, Montreal, 1872; aged 68; a member of the Connecticut State Medical Society, and a member of the staff of the Day-Kimball Hospital, Putnam; died at his home, December 28.

Lieut. Ulysses Grant Goodwin, M. R. C., U. S. Army, Monticello, Ind.; Medical College of Indiana, Indianapolis, 1902; aged 41; formerly a member of the Indiana State Medical Association; died at his home, December 20, from heart disease.

Bruce Watson, M.D., Perry, Okla.; Barnes Medical College, St. Louis, 1897; aged 52; a member of the Oklahoma State Medical Association, and health officer of Noble County; died at the Hercules Sanitarium, Guthrie, September 12, from uremia.

George Allen McKinnon, M.D., Sidney, N. Y.; New York University, New York City, 1885; aged 56; formerly coroner of Delaware County, N. Y., and for twelve years postmaster of Sidney; died at his home, December 20, from cerebral hemorrhage.

David J. Washabaugh, M.D., Grove City, Pa.; Miami Medical College, Cincinnati, 1876; aged 72; a member of the Medical Society of the State of Pensylvania, and one of the oldest practitioners of Mercer County; died at his home, December 23.

Andrew Badger Sherburne, M.D., Portsmouth, N. H.; Harvard Medical School, 1871; aged 70; a member of the New Hampshire Medical Society and Massachusetts Medical Society; died at his home, November 24, from heart disease.

Charles E. Annabel, M.D., Waverly, N. Y.; New York University, New York City, 1871; aged 66; resident physician and surgeon to the Elmira Medical and Surgical Institute; died at his home, December 14, from pneumonia.

Jacob Crawford McCormick, M.D., Mount Gilead, Ohio; Western Reserve University, Cleveland, 1890; aged 56; a Fellow of the American Medical Association; died at his home, December 20, from heart disease.

Walter V. Woods, M.D., Odessa, Del.; Jefferson Medical College, 1877; aged 63; formerly professor of gynecology in the Medico-Chirurgical College of Philadelphia; died at his home, December 20, from typhoid fever.

Elmore Y. Chase, M.D., Salem, Ore.; Miami Medical College, Cincinnati, 1864; aged 86; lieutenant-colonel of U. S. Volunteers during the Civil War; a pioneer practitioner of Salem; died at his home, December 23.

William Ernest Irvin, M.D., Owensboro, Ky.; Vanderbilt University, Nashville, Tenn., 1878; aged 62; a Fellow of the American Medical Association; health officer of Owensboro; died at his home, December 28.

F. W. Benjamin, M.D., Alameda, Calif.; Berkshire Medical College, Pittsfield, Mass., 1860; aged 83; surgeon of the Third New York Volunteer Light Artillery during the Civil War; died at his home, December 22.

Clifford Morrogh Stelle, M.D., Cordova, Md.; New York University, New York City, 1875; aged 64; a member of the Medical and Chirurgical Faculty of Maryland; died suddenly at his home, December 26.

Wyndham Clyde Sparling, M.D., Akron, Ohio; Ohio State University, Columbus, 1915; aged 32; a member of the Ohio State Medical Association; died at his home, December 30, from septicemia.

Carl Anthon Hansen, M.D., Long Beach, Calif.; Bennett Medical College, Chicago, 1875; aged 73; formerly a Fellow of the American Medical Association; died at his home, December 16.

James R. Goodwin, M.D., Bowood, Pa.; Medico-Chirurgical College of Philadelphia, 1894; aged 55; was shot and almost instantly killed by his brother-in-law, at Cheat Neck, W. Va., December 25.

Dwight Timothy Manson, Marion, Iowa (license, Iowa, years of practice, 1886); aged 75; died at the home of his daughter in Rodney, Iowa, December 13, from senile debility.

Capt. Arthur M. Fisher, R. A. M. C., Montreal; McGill University, Montreal, 1914; formerly a practitioner of Woodstock, N. B.; died recently from wounds received in battle.

Evan Jeffries H. Hackney, M.D., Philadelphia; Hahnemann Medical College, Philadelphia, 1893; aged 56; died at his home, December 22, as a result of a nervous breakdown.

Jefferson Davis Duncan, M.D., Temple, Texas; Kentucky School of Medicine, Louisville, 1881; aged 56; died in San Angelo, Texas, December 4, from disease of the lungs.

Capt. Kenneth Angus MacCuish, R. A. M. C., Glace Bay, N. S.; Dalhousie University, Halifax, N. S., 1903; is reported to have been killed in battle in France.

John Durkee, M.D., North Tunbridge, Vt.; Worcester (Mass.) Medical College, 1857; aged 83; died at his home, September 17, from arteriosclerosis.

Allen K. Lane, Odon, Ind. (license, Indiana, 1897); a practitioner since 1864; aged 74; died at his home, October 11, from carcinoma of the stomach.

James Newell Bemis, M.D., West Middletown, Pa.; Bellevue Hospital Medical College, 1870; aged 72; died at his home, December 23.

Emma L. Scholz Aldrich, M.D., Belview, Minn.; Chicago Homeopathic Medical College, 1902; aged 43; died at her home, December 30.

Victor Jufe, M.D., New York City; University of Würzburg, Germany, 1886; died suddenly at his home, December 28.

John B. Meigs, Manito, Ill. (license, years of practice, Illinois, 1889); aged 82; a practitioner since 1856; surgeon of U. S. Volunteers, during the Civil War; also a clergyman; died at his home, November 26, from cerebral hemorrhage.

Mason Locke Weems, M.D., Columbia, Texas; Tulane University, New Orleans, 1852; aged 86; a pioneer settler of Brazoria County, Texas; surgeon in the Confederate service throughout the Civil War; died at his home, December 11.

Symmons Franklin Stockwell, M.D.; Lancaster, N. H.; Bowdoin Medical College, Brunswick and Portland, Me., 1870; aged 72; formerly a member of the Maine Medical Association; died at his home, September 26, from paresis.

Marcus Lafayette Nance, M.D., Isola, Miss.; Tulane University, New Orleans, 1905; aged 37; formerly a member of the Mississippi State Medical Association; died in Yazoo City, Miss., September 12, from septic thrombophlebitis.

Alphonso C. Dorval, M.D., Whitehall, N. Y.; Albany, N. Y., Medical College, 1889; aged 68; for forty-three years a practitioner of Whitehall, and once county health officer; died at his home, December 3, from chronic nephritis.

Squire George Backus, M.D., South Charleston, W. Va.; Eclectic Medical Institute, Cincinnati, 1904; aged 43; a member of the West Virginia State Medical Association; died at his home, August 26, from cerebral hemorrhage.

W. Van R. Blighton, North Tonawanda, N. Y.; aged 80; a practitioner for fifty-eight years; at one time health officer of North Tonawanda, and for nine years local surgeon of the Erie Railroad; died at his home, December 17.

J. Davis Coleman, M.D., Henderson, Ga.; Atlanta, Ga., Medical College, 1888; aged 62; formerly a member of the Medical Association of Georgia; a well known practitioner and planter; died at his home, December 13.

Lewis C. Burd, M.D., Ogdensburg, N. J.; Jefferson Medical College, 1885; aged 58; a member of the Medical Society of New Jersey; a specialist on diseases of the nose and throat; died at his home, December 13, from uremia.

James Joseph Mullen, M.D., Perryopolis, Pa.; University of Wooster, Cleveland, 1884; aged 67; for ten years superintendent of the Emergency Hospital, Pittsburgh; died in Mercy Hospital, Pittsburgh, December 17.

Thomas Lubbock Kennedy, M.D., Galveston, Texas; University of Texas, Galveston, 1895; aged 47; a member of the State Medical Association of Texas; died at his home, November 9, from cerebral thrombosis.

Maurice Smith, M.D., Massillon, Ohio; Western Reserve University, Cleveland, 1895; aged 54; a member of the Ohio State Medical Association; died at his home, December 21, from cerebral hemorrhage.

James Beall Morrison, Kansas City, Mo.; aged 88; reputed to have invented the dental chair, dental engine and other general dental appliances now in use among dentists; died at his home, December 22.

James R. Brock, M.D., Trenton, Ga.; Atlanta, Ga., Medical College, 1882; aged 56; deputy warden at the Atlanta Federal Penitentiary; was struck with an iron bar by a convict and killed, December 27.

John Edward Beck, M.D., Clarion, Pa.; Baltimore Medical College, 1890; University of Pennsylvania, Philadelphia, 1893; aged 54; died in the Warren, Pa., State Hospital, December 6.

Orrin Godfrey Youngquist, M.D., Marquette, Mich.; Rush Medical College, 1886; aged 59; a Fellow of the American Medical Association; died at his home, September 7, from nephritis.

Bradley Hull, M.D., Cleveland; Western Reserve University, Cleveland, 1873; who retired from practice nearly twenty years ago; died at the home of his son, in Cleveland, December 6.

Rhineas Kimble Dow, M.D., San Jose, Calif.; Washington University, St. Louis, 1880; aged 82; once state normal school trustee; died at his home, December 11.

Frederick Eugene Anderson, M.D., Davenport, Iowa; State University of Iowa, Iowa City, 1898; aged 43; died at his home, December 22, from pneumonia.

Harry Clifton Neff, M.D., Dunkirk, Ohio; Cleveland-Pulte Medical College, 1898; aged 43; died at his home, about December 12, from heart disease.

Joshua Moffit Kidney, M.D., Clarinda, Iowa; Rush Medical College, 1880; died at his home, December 10.

Edmund DeWitt, M.D., Apopka, Fla.; New York University, New York, 1862; died, December 6.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

SECRETIN-BEVERIDGE AND THE U. S. PATENT LAW

Report of the Council on Pharmacy and Chemistry

Two years ago the Council published reports on two proprietary preparations said to contain secretin, namely, "Secretogen," sold by the G. W. Carnrick Company (THE JOURNAL A. M. A., May 1, 1915, p. 1518), and "Duodenin," sold by Armour and Company (THE JOURNAL A. M. A., Aug. 14, 1915, p. 639). These reports explained that there was no evidence to indicate that an insufficient amount of secretin was the cause of gastro-intestinal diseases, and further that there was no evidence that secretin in any form was physiologically active when administered by the mouth.

Subsequently, A. J. Carlson and his co-workers, at the request of the Council, studied the question of the stability of secretin and demonstrated (THE JOURNAL A. M. A., Jan. 15, 1916, pp. 178 and 208) that commercial secretin preparations contained no secretin and, further, that secretin given both by the mouth and even in enormous doses directly into the intestine is entirely inactive.

Shortly after the publication of Professor Carlson's work the attention of the Council was called to a U. S. patent issued, May 2, 1916, to James Wallace Beveridge, "Means for and Method of Stabilizing Secretin." In this patent Beveridge claimed to have invented "The process of producing secretin in stable form as a commercial article for therapeutic use . . . ." that is, a process for preparing preparations which would contain secretin when they reach the consumer and in a form resisting destruction in its passage through the stomach.

In view of the demonstrated instability of secretin, the Council asked Professor Carlson to investigate the validity of the claims of the Beveridge patent. The study on "The Question of the Stability of Secretin," by A. J. Carlson, A. E. Kanter and I. Tumpowski, which appears below, shows that the Beveridge patent furnishes no process for the manufacture of commercially stable secretin preparations, nor any means for preventing the destruction of secretin by the gastric juice when administered orally. It further demonstrates that the preparation made by Beveridge was devoid of secretin.

The Council adopted the report of Carlson and his co-workers, and declared Secretin-Beveridge inadmissible to New and Nonofficial Remedies.

The Council directed that the report of Carlson and his collaborators be sent to the Commissioner of Patents with a protest against the granting of patents without competent and thorough investigation of the claims advanced therein.

W. A. PUCKNER, Secretary.

THE QUESTION OF THE STABILITY OF SECRETIN

A. J. Carlson, A. E. Kanter and I. Tumpowski
[From the Hull Physiological Laboratory of the University of Chicago]

In a letters patent, filed May 6, 1914, the patent granted May 2, 1916, James W. Beveridge, M.D., makes certain claims concerning the stability and physiologic acivity of secretin prepared according to the method patented by him.

In brief, Dr. Beveridge claims that secretin prepared by digesting intestinal mucosa with a weak acid at a temperature slightly below boiling, and mixed with 0.2 per cent. to 2 per cent. blood serum, albumin or peptone (1) remains active for at least six months, (2) stimulates the pancreas when given by mouth, and (3) "may be injected intravenously

in man, if desired." The only thing in the letters patent in support of these claims is the statement: "I have found out by actual tests that the preparation maintains its stability for five or six months."

Here are the claims in detail:

"For the source of secretin I preferably use that part of the alimentary tract of any lower animal—such as a hog or sheep—including the gastric pylorus, the duodenum and the jejunum. This part is split open and washed with a normal saline solution to clean the mucosa or mucous membrane of any detritus which may be present. The mucosa with the epithelial cells is then removed or separated from the muscular wall by scraping with a blunt knife or in any other suitable way. The scrapings or cuttings, which contain the secretin, are then macerated or broken up."

"The macerated mass is placed in a suitable vessel and subjected to the action of an acid solution until digested. The time for the digestion of the mass will, of course, depend upon the strength and temperature of the acid solution employed. The stronger the solution and the higher the temperature, the shorter the time necessary for complete digestion. This period may vary from several minutes to several hours. In my experiments I found that the best results were obtained with hydrochloric acid solution of one-tenth to five-tenths of one per cent. in strength, although as high as eight-tenths per cent. might be used.

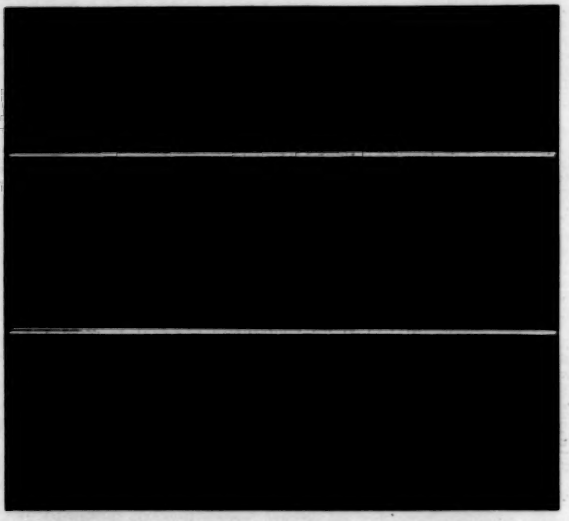

Fig. 1.—Records of carotid blood pressure and secretion of pancreatic juice on intravenous injection of Beveridge's secretin in dogs. *X*, injection of 10 c.c. secretin; *b*, record of flow of pancreatic juice in drops. Tracing *A*, injection of 10 c.c. of one sample secretin (ten days old) furnished by Dr. Beveridge. Tracing *B*, injection of 10 c.c. of second sample of secretin (ten days old) furnished by Dr. Beveridge. Tracing *C*, injection of 10 c.c. of secretin (twenty hours old) made by us according to the Beveridge method. Showing that the secretin preparations sent us by Dr. Beveridge contained no secretin.

The mixture is brought to a temperature of approximately 210 F., and it may even for a few moments exceed that temperature, but it should be kept below the boiling point, for excessive heat injures or breaks down the secretin molecule and impairs or destroys its activity. Although I prefer to use hydrochloric acid, I would have it understood that other acids—both organic or inorganic—may be employed, provided that the percentage of acidity is regulated to prevent a chemical change in the secretin, and further provided, of course, that the acid has no injurious effect on the human system."

After the mass has been digested in the heated solution, the decoction is decanted, and after being allowed to cool is passed through a suitable filter until the filtrate is clear. I found that by filtering the decoction from four to six times through a carbon filter, I obtained a clear colorless filtrate. This is a solution of secretin and the acid which was used, and the clearness of the solution shows that it is practically free from albumoses, gelatin and other impurities (such as cell tissues, etc.) present in the raw material under treatment."

"To the solution of pure and active secretin prepared as above explained, there is added a suitable quantity of blood serum—say from one-fifth to two per cent. or any equivalent medium—such as albumin solution or a peptone solution—which will aid and sustain the activating power of secretin as provided by the blood. That is to say, any medium having the same power, similar quality or chemical composition that the blood-stream possesses in combining with secretin to stimulate the pancreas. The addition of such a medium to the active secretin solution increases the potency of the secretin and its degree of stability by preventing oxidation or deterioration thereof. If this strengthening or fortifying medium, as it may be properly termed, is alkaline, it performs the additional function of lowering the acidity of the secretin filtrate. It is preferable that the final product be just faintly acid. If desired, the final product may be made into an elixir by the addition of aromatics."

"Any desired strength of secretin solution may be obtained according to the quantity of acid solution. In my experiments I used from ten to fourteen duodena to a pint of acid solution."

"The solution of secretin prepared as above described is characterized by its ability to resist oxidation or deterioration for a sufficient period of time to render the solution available as a commercial article, and is furthermore characterized by freedom from poisonous and irritable chemical substances, whereby the secretin is chemically adapted to the human system to stimulate the pancreas to increased secretion."

"As previously stated, the secretin prepared according to my method may be administered orally to produce the desired physiological action. Of course, if desired, the secretin might be injected intravenously, but this more or less dangerous procedure is not at all necessary, and I merely mention it here to point out that when I refer to the oral administration of my new secretin preparation, I do not mean to exclude its administration by injection."

"As to the commercial stability of the secretin prepared according to my method, I may say that I have found by actual tests that the preparation maintains its stability for as long a period as five or six months. When I refer to my product as being 'commercially stable,' I mean that it resists oxidation or deterioration for a sufficient period to render the same available as a commercial article. This period may vary from several weeks to several months, depending upon certain commercial factors well understood by the manufacturer. So, roughly speaking, I should say that secretin is commercially stable when it retains its activity from one to six months. I do not wish to be understood, however, as limiting myself to these exact figures."

That active secretin may be extracted from macerated intestinal mucosa by weak acids below the temperature of boiling is well known. In fact, weak acids at body temperature in contact with the duodenal mucosa lead to the formation of secretin. The claim that secretin given by mouth reaches the blood and acts on the pancreas has been made for other preparations of secretin. It has also been shown that these claims are erroneous.[1] Thus it would appear that the only novel element in Dr. Beveridge's patented secretin is the addition of serum, soluble proteins or peptones. What reason is there for believing that this will render the secretin stable for months, and physiologically active when taken by mouth? We do not believe Dr. Beveridge ever injected his secretin—protein mixture—intravenously in man or animals not under anesthesia, otherwise he would not have stated: "Of course, if desired, the secretin may be injected intravenously."

BEVERIDGE'S PATENTED SECRETIN IS NOT STABLE

1. *The Samples of Secretin Sent Us by Dr. Beveridge.*—Physiological tests were made on four quart bottles of the secretin kindly sent us by Dr. Beveridge, June 26, 1916. According to a letter from Dr. Beveridge of July 20, 1916, those samples of secretin were prepared June 20, that is, only six days before received by us. The material came in dark colored bottles. It was kept in the original bottles and placed in the ice box immediately on receipt. Dr. Beveridge stated the the secretin "should remain active until the month of November, 1916, at least."

Tests were made on three out of the four bottles. The fourth bottle was not opened, as we desired to learn what change it might undergo in the way of protein precipitation and bacterial decomposition. There is nothing in the

1. Carlson, Lebensohn and Pearlman, THE JOURNAL, Jan. 13, 1916, p. 178.

Beveridge method of preparation that insures a sterile secretin unless it is passed through a Berkefeld filter. In all our crucial experiments the animals (dogs) were kept under light ether anesthesia, a cannula inserted into the pancreatic duct, the blood pressure recorded from the carotid artery and the various secretin preparations injected intravenously. When inactive secretin preparations were encountered, control tests were always made with active solutions of secretin to eliminate possible individual peculiarities of the animal. Thus when the pancreas of a dog reacts to the injection of preparation *A*, but not to preparation *B*, it is evident that absence of response to *B* is due to this preparation and not to the animal or to the experimental conditions.

Each of the three samples of secretin sent us by Dr. Beveridge was tested in the above manner on five dogs. The first tests were made June 27, 28 and 29, respectively, that is, within nine days of the preparation of these samples of secretin. *None of the samples was active (Fig. 1), even when injected intravenously in quantities up to 50 c.c.:* 40-50 c.c. of Beveridge's secretin mixture may kill a dog by too great lowering of the blood pressure. A good secretin preparation yields a copious secretion of pancreatic juice on intravenous injection of a few cubic centimeters.

It is not difficult to prepare a secretin, by the original Bayliss and Starling method or by the Beveridge method, that retains some activity for a longer period than nine days. Hence we cannot account for the absolute inactivity of these preparations except on the assumption that they did not contain any secretin to start with; that is, faulty preparation and absence of physiologic standardization.

The sample kept intact in its original container for six months became gradually cloudy, a large mass of amorphous precipitate settled to the bottom, and the odor showed bacterial decomposition. It is reprehensible, to say the least, to state concerning such a mixture: "Of course, if desired, it may be injected intravenously." The fact that Beveridge's secretin may be rendered clear by filtering through carbon is not sufficient evidence that it is "pure secretin," free from bacteria and other injurious substances.

II. *Beveridge Secretin Mixture Is Rapidly Rendered Inactive by Human Gastric Juice.*—We prepared active secretin solutions by the Beveridge method, using 0.2 per cent. serum as the protein "stabilizer" (?). The addition of the serum does not appear to affect the activity of the fresh secretin preparation. If Beveridge's secretin is able to act on the pancreas when given by mouth, it is obvious that it must run the gamut of gastric digestion, except in cases of complete achlorhydria. It has been repeatedly demonstrated that all other secretin preparations are rapidly destroyed by pepsin-hydrochloric acid digestion. Is Beveridge's secretin an exception? What is there in a little serum, native albumin, or peptones to protect secretin against gastric digestion?

The pure human gastric juice used in these tests was secured from the fistula case (Mr. F. V.) that has been under observation in our laboratory for years.[2]

Two cubic centimeters of fresh gastric juice added to 8-10 c.c. Beveridge secretin, the mixture being kept at body temperature (38 C.), renders the secretin completely inactive in from 5 to 8 minutes (Fig. 2). There is no exception to this rule, as we have repeated the test on many different secretin preparations and using different samples of human gastric juice. The secretin of Beveridge is just as vulnerable as the secretin of Bayliss and Starling to pepsin-hydrochloric acid digestion. On what kind of tests does Beveridge base his claim that his secretin mixture acts on the pancreas when given by mouth?

III. *The Relative Rate of Deterioration of the Secretin Solutions Prepared According to Bayliss and Starling and According to Beveridge.*—Six different preparations of the two kinds of secretin were made, kept in dark stoppered bottles in the ice box, and tested by intravenous injection in dogs under ether anesthesia from time to time until all influence on the pancreas had been lost. One typical series of these tests may be given by the way of illustration:

BEVERIDGE'S SECRETIN AND BAYLISS-STARLING SECRETIN PREPARED SEPT. 29, 1916

Date of the Test	Quantity of Secretin Injected, C.c.	Response of Pancreas (No. of Drops of Secretin)	
		Bayliss-Starling Secretin	Beveridge Secretin
Sept. 29	10	75	78
Oct. 2	10	61	61
Oct. 6	10	28	17
Oct. 13	10	25	21
Oct. 27	10	5	6
Nov. 3	10	7	6
Nov. 17	10	4	5
Nov. 30	10	3	4
Dec. 4	10	2	2
Dec. 20	10	0	0

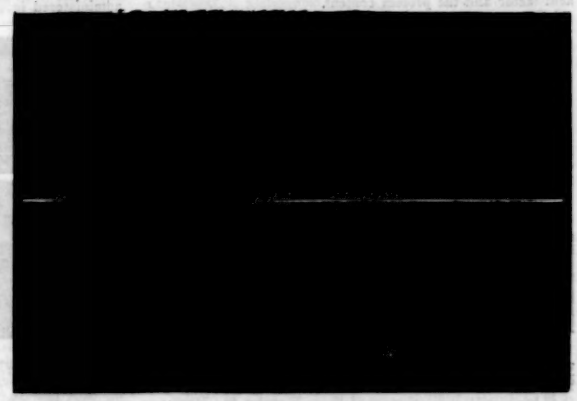

Fig. 2.—Records of carotid blood pressure and flow of pancreatic juice on intravenous injection of secretin prepared by us according to the Beveridge method. *X*, injection of 10 c.c. of the secretin; *b*, record of flow of pancreatic juice in drops. Tracing *A*, the 10 c.c. of Beveridge's secretin injected had been digested for five minutes with 3 c.c. of human gastric juice. Tracing *B*, injection of 10 c.c. of the same secretin preparation not subjected to gastric digestion. Showing rapid and complete destruction of Beveridge's secretin by human gastric juice.

It will be seen that the rate of deterioration (oxidation or decomposition) of the secretin is practically the same whether prepared according to Bayliss and Starling or according to Beveridge (Figure 3). In both preparations the rate of deterioration is most rapid the first few days after preparation. It is scarcely necessary to point out that secretin preparations not kept constantly at low temperature and in the dark, as in the above experiments, will deteriorate more rapidly.

Why can we hope that the addition of serum or any solution of protein will render secretin more stable? In the intact man or animal under normal conditions of digestion, secretin reaches the pancreas by way of the blood, that is, it is in solution in blood. Does that fact render the secretin stable? By no means. The reader is familiar with the fact that the response of the pancreas to a single intravenous administration of secretin is very transitory (5-15 min.). The cessation of activity is due, not to fatigue of the pan-

2. Carlson: The Control of Hunger in Health and Disease, Chicago, 1916.

creas, as a second injection of secretin gives a prompt response of pancreatic secretion, but to the disappearance of active secretin from the blood. In fact, secretin left in the test tube or in the bottle remains active over a much longer period of time than when introduced into the blood stream.

IV. *Beveridge's Secretin Given by Mouth to the Intact Animal Has No Specific Action on the Pancreas.*—Active secretin prepared according to the method of Beveridge was fed on an empty stomach to a small dog (5 kilo) with permanent fistula of one of the pancreatic ducts. On control days we gave the dog (*a*) equal quantities of n/10 Hcl, and (*b*) bread and milk. The Beveridge secretin was prepared with 0.3 per cent. HCl and the addition of 0.2 per cent. serum. The results may be stated by the following summary:

GIVING BEVERIDGE'S SECRETIN BY MOUTH

Material Fed	No. of Tests	Secretin of the Pancreas for Three Hours Following the Feeding
150 c.c. Beveridge Secretin	6	10.2 c.c.
150 c.c. 4/10 HCl	5	22.7 c.c.
Bread soaked in Milk ...	4	6.6 c.c.

The control experiments with pure hydrochloric acid show that the secretion of pancreatic juice following the introduction of Beveridge's secretin into the stomach is due to the acid factor and the protein content.

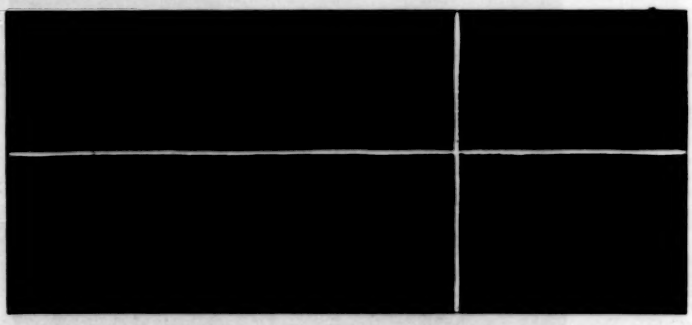

Fig. 3.—Records of carotid blood pressure and flow of pancreatic juice on intravenous injection of secretin preparations. *X*, injection of 10 c.c. secretin; *b*, record of flow of pancreatic juice in drops. Tracing *A*, secretin prepared according to the Beveridge method September 30. *I*, injection of 10 c.c. October 2, *II*, injection of 10 c.c. November 30. Tracing *B*, secretin prepared by the Bayliss-Starling method September 30. *III*, injection of 10 c.c. October 2; *IV*, injection of 10 c.c. November 30. Showing no greater stability of Beveridge's secretin over that of Bayliss and Starling.

CONCLUSIONS

The patented secretin of Beveridge is rendered inactive by gastric juice, is without effect when given by mouth, and exhibits no greater stability or keeping qualities than the secretin prepared according to Bayliss and Starling. It has no merit as a therapeutic agent. It should under no conditions be administered intravenously in man, as it contains deleterious protein split products and living bacteria.

NEED FOR PATENT LAW REVISION

Report of the Committee on Patent-Law Revision of the Council on Pharmacy and Chemistry of the American Medical Association

At the present critical time when the efficiency of this nation must be raised to the highest point, it is essential that the United States government should lead in the efforts tending to such increased efficiency. To bring this about the government must protect and stimulate science, art and industry and at the same time curb or prevent waste of the country's resources. In this field the United States Patent Office has unlimited power for good and evil—good, in the issuance of patent grants for novel devices and substances which go to increase national efficiency; evil, in the granting of patent protection where such protection is not in the interest of national efficiency, conservation of energy and material resources.

For years the American Medical Association, in common with the national pharmaceutical bodies, has been urging amendment of the law which governs the issuance of patents on medicinal preparations and more particularly revision of the procedure under which such patents are issued. At the Chicago (1908) meeting of the American Medical Association a special committee of five was appointed by the House of Delegates to study the questions involved, and to cooperate with the Association's committee on medical legislation in preparing and securing the enactment of a bill which would correct the abuses connected with the enforcement of our patent laws (THE JOURNAL A. M. A., June 13, 1908, p. 2003). This committee presented a comprehensive report at the Atlantic City (1909) meeting of the American Medical Association (THE JOURNAL A. M. A., June 19, 1909, p. 2063). A further report was presented at the St. Louis (1910) meeting of the American Medical Association (THE JOURNAL A. M. A., June 18, 1910, p. 2079). In 1911 (THE JOURNAL A. M. A., Nov. 25, 1911, p. 1780) the Council on Pharmacy and Chemistry of the American Medical Association issued a report which set forth the inadequacy of our patent laws as they are administered in relation to medical products particularly.

AGAINST PUBLIC INTEREST

Since that time the Council has continued its study of the U. S. patent law as it applies to medicine and has become convinced that in many instances the patent law or its enforcement is contrary to the best interest of the public, both as concerns health and prosperity. The Council feels it a duty at this time to protest against the provisions of our patent law, or the methods of its enforcement, which permit the granting of patents without thorough and scientific investigation of the claims advanced in such letters patent. As one means of improving conditions the Council urges that the U. S. Public Health Service, the Bureau of Chemistry, U. S. Department of Agriculture and other scientific departments of the United States government conversant with medicines and related subjects be consulted before the issuance of patents on medicinal preparations.

In support of the Council's contention that the patent law procedure requires revision, the following is offered: In 1912 a U. S. Patent (No. 1,031,971) was granted on a cresol derivative, metacresyl acetate, a product described in chemical literature in 1903. When the Council inquired as to the grounds for the issuance of a patent for a substance known to science, the Patent Office replied that it was not familiar with the publication in which metacresyl acetate had been described. It seems evident that this patent would not have been issued had the application first been submitted to a government department familiar with chemical literature.

An illustration of the granting of a patent on the use of well-known chemical bodies which present no discovery or originality, is the patent issued for the use of peroxids, perborates and percarbonates as ingredients of tooth powders (U. S. Patents Nos. 760,397 and 802,099). Regarding these

patents THE JOURNAL of the American Medical Association (Sept. 20, 1913, p. 978) commented:

"The patents held by McKesson and Robbins give this firm the exclusive right of manufacturing tooth powders containing peroxids, perborates and percarbonates. It is another illustration of the unfair monopolies that may be secured under our present patent laws."

GRANTING A PATENT TO A NOSTRUM

Again in 1913 U. S. Patent No. 1,081,069 was granted to a citizen of Switzerland (a country which does not grant patents on medicinal preparations) for a "composition which is intended to be used internally and which confers to the organisms immunity against the following microbial infectious illnesses: *diphtheria, pneumonia, typhus, scarlet fever, influenza, septic infections, cerebral-spinal meningitis, syphilis, pest, cholera and tuberculosis; it is also effective in another kind of disease, viz., goiter.*" (Italics not in original). The patent specification states that "The principal of these substances is creatinin . . . ." but offers no evidence whatever that this well-known chemical body has the extensive and miraculous powers claimed for it. In publishing a notice of this patent THE JOURNAL of the American Medical Association (Jan. 3, 1914, p. 54) explained:

"It appears that the inventor is dead, and that his estate took out the patent. Since this great benefactor should have been, by the use of his preparation, immune to practically all diseases, he must have died of senility, although this seems hardly to have been the case."

and held:

"Assuredly granting patents on such claims ought to be sufficient to show the need of a change in the methods of granting patents—at least of the methods governing the issuance of patents for medicinal products."

We submit, that had the department of the government entrusted with the enforcement of the federal Food and Drugs Act been consulted as to the claims of this patent, it would probably have advised that, if the absurd and palpably fraudulent claims set forth in this application for a patent were made on the label of a preparation of creatinin offered for sale in interstate commerce or in the District of Columbia, the vendor would be prosecuted.

In 1914 there was issued U. S. Patent No. 1,086,339. Here the "inventor" declared:

"It is the object of my invention to destroy parasitic micro-organisms, particularly on living tissue without injuring the latter, by progressively evolving sodium hydroxid contiguous to said tissue, from and in a moist mixture of calcium hydroxid, sodium carbonate, aluminum sulfate and boric acid . . ."

In a word, this patent apparently was granted for the production of sodium hydroxid by a chemical reaction which had been in use for several centuries. Because the patentee had twisted the granting of this patent into a quasi-endorsment of his nostrum, the Council's consideration of this preparation was sent the Patent Office as a protest against the present law which authorizes the granting of patents on unproved and improbable medical claims. At that time the Council was informed by the Patent Office that reforms in the issuance of patents for medicinal substances had been instituted, and that "the trouble will not be so pronounced in the future as it has been in the past."

FLAVORING EPSOM SALT A "DISCOVERY"

There was issued early in 1917 U. S. Patent No. 1,212,888 for a method of flavoring Epsom salt—yet this "discovery" is a procedure which has been practiced ever since the cathartic action of this bitter salt has been known. Not only does the patent describe a process long known to physicians and pharmacists, but it sets forth claims that the flavored cathartic salt produced by the process cures flatulency, indigestion, sick and sour stomach, colic and destroys worms. In commenting on this patent THE JOURNAL of the American Medical Association (June 23, 1917, p. 1914) was constrained to remark:

"The splendid conception of the framers of our constitution in providing a plan for promoting progress in science and useful arts by granting to inventors for a limited time the exclusive use of their inventions, in exchange for the publication of full knowledge thereof, is being debased. No branch of our government is of greater importance to the progress of the country than the patent office, provided that office is intelligently administered. When the patent office is used, however, for an extension of the nostrum business, founded on the abuse of patent and trade-mark laws, it becomes a menace to the public health. The objects of the patent law are being defeated by the practices of the patent office."

Still further, attention is called to U. S. Patent No. 1,226,394 for a process of making hexamethylenamin tetraiodid and on the product so produced. This patent was issued after the Council had notified the Patent Office that hexamethylenamin tetraiodid had been discovered in 1888 and that a process identical in principle with that for which patent application appeared to have been made was published in 1916. On the basis of claims for which no evidence is produced this patent is issued for a well-known substance on the ground that as previously produced it contained a little free iodin or that the known processes were less economical. This patent appears to be an illustration of our patent procedure which obliged American users of acetylsalicylic acid to pay an exorbitant price because this country granted a patent which gave to the patentee, a foreigner, the exclusive right to the manufacture of the substance, whereas no such patent was issued in the patentee's own country nor, so far as we can learn, in any other country. It forcibly illustrates the need for a revision either of our patent laws or of their methods of enforcement or both.

THE BEVERIDGE PATENT

In further justification of the Council's protest against the provisions of our present law, or the methods of its enforcement, which permit the granting of patents without thorough and scientific investigation of the claims advanced in such letters patent, the Council calls attention to the report, appearing above, of an investigation made by A. J. Carlson, A. E. Kanter and I. Tumpowski, "The Question of the Stability of Secretin," which relates to U. S. Patent No. 1,181,424, issued to James Wallace Beveridge.

Whereas the regulations governing the issuance of patents demand that the processes shall be described in such detail that one versed in the sciences can confirm the claims made by the patentee, no pretense whatever of fulfilling this requirement is made in the patent specifications of this patent. The substance of the first three paragraphs of this patent has long been general knowledge. Nearly every sophomore medical student has himself performed, or seen performed such "experiments" as are therein described. The claims of novelty evidently are confined to the assertion that the preparation is able to "resist oxidation or deterioration"; that it is free from "poisonous and irritable chemical substances"; that it "may be administered orally to produce the desired physiological action," etc., etc. Not the slightest hint is given as to how any person can substantiate these claims. As a matter of fact, the investigation of Professor Carlson and his co-workers has shown that a preparation having the properties claimed cannot be made by the process described in this patent. Any one familiar with the subject could have demonstrated readily that the applicant was withholding information concerning essential features of his process, assuming that he had any information on the subject (which he probably did not have) and would have advised against the issuance of the Beveridge patent.

Correspondence

THE BLOOD IN CARBON MONOXID POISONING

To the Editor:—In an excellent summary of the present knowledge of carbon monoxid poisoning (THE JOURNAL, Aug. 19, 1916, p. 580), Prof. Yandell Henderson of Yale University suggests that "asphyxial coma . . . indicates an intense acidosis." No data were offered to support this conclusion, nor have I, in a cursory examination of the literature, been able to find evidence on this point. Through the courtesy of Dr. Joseph Roby, I have recently had an opportunity of studying the blood of a person suffering from intense carbon monoxid poisoning.

The patient was a country girl, aged 17 years, residing in a boarding house. She had just come to the city to attend school, and was not familiar with the operation of gas fixtures. One night, through some inadvertence, she left the gas cock partly open. When found, she was unconscious

and pulseless. She was taken to the hospital, where stimulants were administered. Ten hours after admission to the hospital, her temperature was 102 F., the pulse 160, and respiration 40. Respirations were labored and there was profuse sweating. The patient continued in this condition with the temperature ranging between 101 and 104 for three days, when I first saw her. At that time, the rectal temperature was 104, the pulse 126, and respiration 42. The patient was then urinating and defecating involuntarily. She was profoundly stuporous, but was conscious of pain. A specimen of blood was taken for chemical examination from the median basilic vein fifty-three hours after admission to the hospital. The blood sugar was 0.19 per cent.; the blood urea 47.2 mg. per hundred c.c., and plasma carbon dioxid, 49 c.c. per hundred c.c. A sample of the urine of this date showed a trace of albumin; otherwise it was negative. A white cell count made at the same time was 25,200 per cubic millimeter.

The patient continued in this stuporous condition with involuntary urinating and defecating. She was again examined two days later, or 100 hours after admission to the hospital. She was still in a state of stupor, with labored breathing and loss of control of the sphincters. The rectal temperatrue was 100 F., the pulse 100, and respiration 20. The sample of blood taken at this time revealed: blood sugar, 0.16 per cent.; blood urea, 60 mg. per hundred c.c.; creatinin, 1.2 mg. per hundred c.c.; uric acid, 3.2 mg. per hundred c.c., and plasma dioxid, 50.4 c.c. per hundred c.c. (The methods used were: blood sugar, Lewis-Benedict; blood urea, Van Slyke; plasma carbon dioxid, Van Slyke; uric acid and creatinin, Folin.)

The patient continued in a state of complete stupor for 125 hours; then for at least forty-eight hours more, she was in a state of semistupor, after which she made a gradual and fairly satisfactory recovery.

In addition to the foregoing signs, she exhibited the typical clinical picture of carbon monoxid poisoning of a very intense character. If acidosis were the accountable cause of the stupor, it should be found to a marked degree in the carbon dioxid combining power of her blood plasma. It will be observed, however, that both examinations were practically the minimum normals for healthy persons. The absence of urea retention, together with the low creatinin and uric acid, excludes uremic poisoning. The rather high blood sugar is an interesting metabolic incident. The character of the breathing is important. In true acidosis, such as is exhibited in diabetic coma and in some cases of uremia, the patient, breathing deeply all the while, gives even the uninitiated the impression that not enough air is being obtained. In this case of carbon monoxid poisoning, the patient did not appear to be suffering so much from lack of air as from a profound increase in the irritability of the respiratory center. This was associated with profuse secretion of mucus in the large bronchi and throat, a condition practically never seen in acidosis.

From the foregoing data, it may be concluded that in this case the patient was profoundly poisoned by illuminating gas (water gas), of which carbon monoxid is the principal toxic agent. It is evident, also, that acidosis was not the cause of the stupor, if the carbon dioxid combining power of the blood plasma may be taken as an index. If this is true generally, alkali therapy for this purpose is valueless. In the care of this case, Dr. Roby followed Dr. Henderson's excellent suggestions as to treatment, with the exception of the alkali therapy, and the patient made a good recovery.

JOHN R. WILLIAMS, M.D., Rochester, N. Y.

INFLAMMABLE SPECTACLE AND EYE-GLASS FRAMES

To the Editor:—Perhaps it is pertinent at this time to warn all those in military service against the wearing of spectacle frames and eye-glass frames made of any inflammable material. It might be disastrous in the presence of fire, explosions, etc., to which active service may expose the wearer.

V. A. CHAPMAN, M.D., Milwaukee, Wis.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, Feb. 18. Sec., Dr. Charles B. Pinkham, State Capitol, Sacramento.

ILLINOIS: Springfield, Feb. 6-7. Supt. F. C. Dodds, Springfield.

IOWA: Des Moines, Feb. 5-7. Sec., Dr. G. H. Sumner, Capitol Bldg., Des Moines.

KANSAS: Topeka, Feb. 12. Sec., Dr. H. A. Dykes, Lebanon.

NATIONAL BOARD OF MEDICAL EXAMINERS: New York City, Jan. 9-17. Sec., Dr. J. S. Rodman, 310 Real Estate Bldg., Broad and Chestnut Sts., Philadelphia.

NEW MEXICO: Sante Fe, Jan. 14. Sec., Dr. R. K. McClanahan, East Las Vegas.

NEW YORK: Albany, Buffalo, New York City and Syracuse, Jan. 29-Feb. 1. Sec., Dr. W. J. Denno, Education Bldg., Albany.

VERMONT: Burlington, Feb. 12. Sec., Dr. W. Scott Nay, Underhill.

WISCONSIN: Madison, Jan. 14. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

WYOMING: Laramie, Feb. 6-8. Sec., Dr. H. E. McCallum, Laramie.

Rhode Island Report

Dr. B. U. Richards, secretary of the Rhode Island State Board of Health, reports that two candidates, one a graduate of the McGill University in 1914 and the other of the Chicago Homeopathic Medical College in 1890, were licensed, July 3 and July 12, respectively, each having received a grade of 80 per cent.

Rhode Island July Examination

Dr. B. U. Richards, secretary of the Rhode Island State Board of Health, reports the practical and written examination held at Providence, July 5-6, 1917. The examination covered 7 subjects and included 70 questions. An average of 80 per cent. was required to pass. Seven candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Yale University		(1913)	85.2
University of Maryland		(1916)	83.2
Harvard University		(1915)	88
Tufts College Medical School		(1914)	83.6
University of Buffalo		(1916)	87.5
Medico-Chirurgical College of Philadelphia		(1915)	83.3
University of Naples		(1912)	81.5

Wisconsin September Meeting

Dr. J. M. Dodd, secretary of the Wisconsin State Board of Medical Examiners, reports that at the meeting held at Ashland, Sept. 14-15, 1917, seven candidates were licensed through reciprocity. The following colleges were represented:

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College		(1915)	Illinois
University of Illinois		(1915)	Illinois
Baltimore Medical College		(1898)	Michigan
St. Louis University		(1911)	Missouri
John A. Creighton Medical College		(1915)	Nebraska
Vanderbilt University		(1916)	Tennessee
University of Texas		(1911)	Oklahoma

Colorado October Examination

Dr. David A. Strickler, secretary of the Colorado State Board of Medical Examiners, reports the written examination held at Denver, Oct. 2, 1917. The examination covered 8 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 7 candidates examined, 6 passed, and 1, an osteopath, failed. Eighteen candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Colorado		(1917)	79.2, 80.8
Chicago College of Medicine and Surgery		(1911)	77.3
Indiana University		(1916)	82.9
John A. Creighton Medical College		(1907)	79.6
North Carolina Medical College		(1911)	79.1

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago		(1900)	Iowa
Northwestern University		(1916)	Michigan

State University of Iowa College of Medicine	(1917)	Iowa
University of Louisville	(1893)	Missouri
Tulane University of Louisiana	(1916)	Louisiana
Johns Hopkins University	(1908)	New York
Harvard University	(1904)	Mass.
Ensworth Medical College	(1892)	Kansas
St. Louis Medical College	(1873)	Iowa
University Medical College of Kansas City (1904) Missouri;	(1910)	Neb.
Albany Medical College	(1905)	New York
New York Homeo. Medical Coll. and Flower Hosp.	(1913)	New Jersey
Syracuse University	(1913)	New York
Medical College of Ohio	(1902)	Ohio
Vanderbilt University	(1913)	Tennessee
Marquette University	(1913)	Illinois
Montreal School of Medicine and Surgery	(1900)	New York

District of Columbia October Examination

Dr. Edgar P. Copeland, secretary of the Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held at Washington, Oct. 9-11, 1917. The examination covered 16 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 8 candidates examined, 7 passed and 1 failed. Three candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
College of Medical Evangelists	(1916)	89.6
George Washington University	(1915)	84.6
Harvard University	(1914)	78.7
Johns Hopkins University	(1914)	80.6
Minneapolis College of Physicians and Surgeons	(1909)	79.2
University of Pennsylvania	(1917)	86.9
Meharry Medical College	(1916)	75
FAILED		
Southern College of Medicine and Surgery*	(1914)	63.7

College	Year Grad.	Reciprocity with
LICENSED THROUGH RECIPROCITY		
Maryland Medical College	(1913)	Penna.
Leonard Medical School	(1904)	Virginia
Jefferson Medical College of Philadelphia	(1911)	Penna.

*Graduation not verified.

Georgia October Examination

Dr. C. T. Nolan, secretary of the Georgia State Board of Medical Examiners, reports the written examination held at Atlanta, Oct. 9, 1917. The examination covered 10 subjects and included 100 questions. An average of 80 per cent. was required to pass. Ten candidates were examined, all of whom passed. Ten candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Bennett Medical College	(1915)	80.2
Chicago College of Medicine and Surgery	(1917)	81.6
Hahnemann Medical College and Hospital of Chicago	(1916)	90.5
Indiana University	(1917)	86.7
Tulane University of Louisiana ..(1914) 83.2;	(1917)	90.7
North Carolina Medical College	(1917)	81.8
Jefferson Medical College of Philadelphia	(1917)	92.2
Vanderbilt University	(1917)	87.6
Medical College of Virginia	(1917)	88.1

College	Year Grad.	Reciprocity with
LICENSED THROUGH RECIPROCITY		
Detroit College of Medicine and Surgery	(1914)	Michigan
University of Michigan Medical School	(1912) (1914)	Michigan
Woman's Medical College of Philadelphia	(1899)	N. Carolina
Meharry Medical College	(1917)	Tennessee
Sewanee Medical College	(1901)	Tennessee
Vanderbilt University	(1916) (1917)	Tennessee
University College of Medicine	(1917)	Virginia
Manitoba Medical College	(1906)	New Jersey

Michigan October Examination

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, Oct. 9-11, 1917. The examination covered 14 subjects and included 100 questions. An average of 75 per cent. was required to pass. Fifteen candidates were examined, all of whom passed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Chicago College of Medicine and Surgery	(1917)	79.7, 84.5
Hahnemann Med. Coll. and Hosp. of Chicago	(1917)	82.6
University of Illinois	(1916)	86.5
Johns Hopkins University	(1917)	83.8, 85.5
Detroit College of Medicine and Surgery	(1917)	78.6, 81.8
Michigan College of Medicine and Surgery	(1904)	76.8, 77.4
University of Michigan Medical School	(1917)	85.7, 86.2
University of Michigan, Homeopathic Medical School	(1917)	81.5
New York Medical College and Hospital for Women	(1916)	87.9
University of Buffalo	(1912)	82.2

Social Medicine, Medical Economics and Miscellany

FRANKLIN PAINE MALL

An Appreciation*

A. W. MEYER, M.D.
GOVANS, MD.

As an undergraduate, Mall lived through the old order of things. Although graded courses in medicine had made their advent by the time he became a university student, this change in medical education was only a single step—the first one—in the needed advance. In selecting the University of Michigan he chose well, for it was here that he learned to prepare histologic specimens at a period when laboratory work in histology was yet unthought of in most medical schools. It was this training that enabled him later to become an assistant in histlogy at Heidelberg. Here, he tells us, he was permitted to study pathologic before normal histology. The exercise of this privilege of choice was valued highly by him, and although well aware of some of the defects of medical education in Germany, he returned from three years' graduate work at Heidelberg and Leipzig, fully imbued with the spirit of freedom in university education. This was due not alone to the wise words of Helmholz, which apparently greatly impressed him, but especially to this particular aspect of German student life itself. Hence, writing on liberty in medical education in 1899, Mall declared:

> In my association with German medical students I have witnessed frequently the value of this point emphasized by Quintilian. . . . We cast out the weak and disgrace them. The mediocre continue along the trodden path, but the strong are retarded. We do wrong when we disgrace the weak, and it is our duty to develop the strong. It is poor logic and begging the question to assert that the German student develops better under the banner of liberty than the American would.

And again in 1905, when writing of His, he declared:

> How different is the study of medicine in Europe from that in America! There freedom reigns, and students wander from place to place, being controlled only by a fairly rational system of examination in case they wish to graduate.

Mall remained ever true to this ideal of liberty in education, and cherished it, not for himself alone, but for his students and associates as well. He, indeed, was typically American in his love of liberty, and abominated autocratic methods. Every one was vouchsafed full liberty of action by him; his mind was ever open to new ideas, and always tolerant of dissenting opinion.

During the first three years of the formative period of his career in anatomy, Mall studied at Heidelberg, and worked especially with Ludwig and His at Leipzig. These great teachers he revered throughout his life, and their influence he gladly and frequently acknowledged. Of the two, His became the greater influence, no doubt largely because Mall's interests became more and more anatomic instead of physiologic; for although several of his early papers are on physiologic subjects, he soon devoted his entire energies to anatomy alone.

On returning to America in 1886, he became a fellow, and later an instructor in pathology at the Johns Hopkins University. Here he worked with Welch, to whom, as teacher, he later dedicated one of his monographs. After three years he was called to Clark University as adjunct professor of vertebrate anatomy, and at the end of another three to the professorship of anatomy at the University of Chicago. Here he stayed but a single year, for he was invited to the professorship of anatomy and headship of the department at the newly founded school of medicine of the Johns Hopkins University.

There is abundant evidence that the formative period of Mall's career did not comprise all of the first decade following his graduation in medicine. He not only quickly found himself, but realized well the task before him in the rehabilitation of anatomy. He fully and publicly recognized the great value of the work and the influence on anatomy of

*The uncredited quotations are from Professor Mall's article on Wilhelm His.

Wistar, Wyman and Leidy, but well knew that the old order of things had but begun to change. The real work was still ahead, and in it he had a very large share indeed. "In our many medical colleges," he wrote in 1896, "the most fundamental branch is treated in a very shameful way." And in referring to the old conditions in an article, in 1899, he said:

> A quarter of a century ago the medical schools of this country gave an annual course of lectures, which was attended by all students and repeated each year. For this privilege students paid a single fee for which they heard much, saw little and did nothing. There were no requirements for admission and few for graduation.

Although Mall began his career at a time full of promise, in this he was not alone. The time was ripe, but ripe not for him only. Auspicious as the circumstances at the Johns Hopkins University were, they alone could not have effected the change which he wrought; for he not merely accepted conditions as he found them but shaped them in accordance with high ideals and the best traditions of anatomy. He firmly resisted having anatomy subordinated to any other subject, or even made its handmaid. He well knew that anatomy was worth while in itself, and that it must be cultivated as an independent science in order to prosper. Mall repeatedly emphasized this thought. He regarded "anatomical departments as conservators of anatomical science in which all members of the department are students enlisted in one or more of its subdivisions and its further growth. This department in a university should be truly a university department, and not one that limits its instruction to meet the bare needs of medicine and surgery." Surely nothing could better convert those holding a contrary view than the record of his own department and the traditions he himself established.

Mall also emphasized the unity of anatomy. He realized that histology, gross anatomy, embryology and physical anthropology are one. This was a rather novel idea at the time when he began his career, for although no one would have stultified himself by suggesting that what can be seen in the heavens with the unaided eye belongs in a different field of endeavor from that which can be seen with the telescope, such an incorrect point of view had the force of tradition in anatomy—not in America alone. Indeed, not even the present period of progress has been able wholly to overcome this point of view, and the idea of unity emphasized by Mall so long ago has only recently found realization in some of our prominent universities, both of the East and of the West. For having espoused this conception of anatomy we, especially of the younger generation, owe Mall a debt of gratitude. He, indeed, was in many respects a unique influence in changing for the better the whole state of things in medical education.

In order to overcome the handicap of working on fresh and unavoidably decomposing cadavers, Mall began experiments for the preservation of anatomic material in October, 1893. While waiting for the arrival of human bodies, he used the cadavers of dogs. One of the first results incidental to these experiments was the deletion from the annual announcement of the medical school of the sentence, "The study of human anatomy will be continued with practical work in the dissecting room as soon as cold weather sets in." This statement, which had appeared in five successive annual announcements, was omitted in 1898. In the announcement for the following year it was stated that "the material is carefully embalmed and kept in cold storage vaults."

When speaking of these earlier experiments in 1905, he said:

> These experiments proved to be valuable, for we have ever since been able to embalm our subjects well, and in turn the method has spread to many of the medical schools of America.

These methods did, indeed, spread, and so did the conditions under which dissections were done in his laboratories. But Mall's influence on anatomy was not restricted to the organization of courses, to the teaching of anatomy, to the conditions under which it is taught, or even the establishment of higher standards. Great as the influence of his example in these matters was, it far transcended them and extended to the whole course of development of anatomy in America. He took a leading part in founding various scientific journals, in reorganizing the Association of Anatomists, and in effecting the reorganization of departments of anatomy all over the country. These things not only carried his influence far and wide, but made it fundamental. Nevertheless, it was his attitude toward investigation and his activity in it that made and left the most profound impression. Hence, although a better day had begun to dawn when Mall began his work, and short though his span of life was, he nevertheless lived to see the sun far up from the horizon. That this fact found recognition abroad also must have been very gratifying to him. When writing in *Nature* in 1916, Keith, for example, declared:

> Five and twenty years ago anatomists in America were British in methods and in spirit; they were easy going, each man following leisurely his own individual bent. Since that time a remarkable change has taken place; the number of laboratories in which the structure and development of the human body are taught and investigated have increased tenfold; the number of investigators has increased in a still greater ratio; in quantity and quality their anatomical proceedings and journals have come to rival those of any country of Europe.
>
> In effecting this transformation the chief credit must be assigned to one man—Franklin Paine Mall, twenty-three years professor of anatomy at the Johns Hopkins University. He planted in Baltimore the methods and aims which he had acquired when working in the laboratory of the late Professor His of Leipzig. By his personal influence, and example, by pupils and disciples, and by reason of the inherent excellence of the Leipzig traditions, he has succeeded in Germanizing the majority of the dissecting rooms and anatomical laboratories throughout the length and breadth of North America.

Mall repeatedly acknowledged his indebtedness to His, which is referred to in the foregoing quotation from Keith. When speaking of his investigations on Embryo 2, for example, he wrote:

> In 1890, this specimen was offered to my teacher, Professor His, who, however, refused to accept the gift but returned it, together with several of his own. "These," he added, "will make a nucleus for your own collection. It will give me pleasure to see publications coming from a new source."

Seldom, indeed, can the hope of a teacher have found fuller realization! The unique collection, now the property of the Department of Embryology of the Carnegie Institution of Washington, long passed the fondest hopes, if not the dreams, of Wilhelm His. The rapid increase of this collection within the last few years through the generous cooperation of numerous physicians, as well as its greater utilization, made possible by the wise support received from the Carnegie Institution, gave Mall the greatest satisfaction. In it he saw the possible fulfilment of many a cherished plan, and to it he gave his best endeavors. Let us hope that continued support of this department will enable others to carry to full fruition the wise plans of its founder and first director, for as he wrote of His, so it also may be said of him: "He left a great legacy, no small part of which consists of wise plans for future work."

Even if it were within the power of my poor words to do so, it is not my purpose to fully portray the life work of my former teacher, colleague and friend. Nor did he love many words. Silence was often golden to Mall, for he was a doer, not a preacher. He lived and taught by example, and his unique personality, quiet demeanor and simple unobtrusive life had a very pervading influence. Neither his time nor attention were for the *many* but for the *few* whom he sought to interest in his chosen field. All he had to give was theirs, and to them his loyalty and devotion were unfailing.

He always was alert for a new recruit, and not only possessed rare intuition in finding him, but soon won him over and spurred him on to his best endeavors; not by making alluring promises, but by interesting himself in his work and providing ideal conditions. A feigned interest never misled him, and he was impatient of the time server. "In America," he wrote, "we frequently find recent graduates who tell us they would follow an academic career if their future were assured as far as salary is concerned. Little do they realize that this attitude of mind should exclude them absolutely from such a career."

He tested all aspirants by "freedom and research," and always stood with his disciples on "the common field of nature." Students, assistants and associates "always were

given the greatest freedom, for it was against his nature to enslave them to the least degree." With students or disciples, "swim or sink" was his precept, and he aided the scientific toddler only to start him off. Once started, the beginner was left largely to his own devices, for "he desired that the pupil should have full freedom to work out his own solution." If the initiative of the latter carried him forward to a success, no matter how modest, Mall's pleasure always exceeded that of the toddler himself.

Some happy day, when the history of anatomy in America will be written, a very large place will be assigned to Mall. His influence was wide and deep, not alone because of what he himself did, but also because of what his example inspired others to do. As he said of His, so also it was true of him, that "his greatest joy was to further the cause of his chosen science." Surely, every one rejoices in such a life as this, and finds comfort in the words of Ulysses, "Though much has been taken, much abides."

Book Notices

NOTES FOR ARMY MEDICAL OFFICERS. By Lieut.-Col. T. H. Goodwin, R. A. M. C. With an Introductory Note by Surg.-Gen. William C. Gorgas, U. S. Army. Medical War Manual No. 2. Authorized by the Secretary of War and under the Supervision of the Surgeon-General and the Council of National Defense. Leather. Price, $1. Pp. 112, with 34 illustrations. Philadelphia: Lea & Febiger, 1917.

This is a reprint of the lectures delivered by Colonel Goodwin of the British Army Medical Corps at the Army Medical School in Washington. It is divided into organization and administration; war surgery; sanitation in war, and general notes for service on the western front. In the section on surgery and sanitation there are many illustrations of devices for use at the front and in camp. Of particular interest are the general notes for service on the western front. These describe the outfit which it is advisable to take, billeting, messing, social customs, censorship regulations, and general hints. The latter we reproduce:

1. Avoid criticism of the action or orders of a senior officer. It should be borne in mind that the officer issuing an order is probably in possession of information of which the recipient of the order has no knowledge.

2. An officer should stand *in loco parentis* with regard to the men serving under him. If in difficulty or trouble a soldier should appeal to his officer for advice or assistance, with every confidence that any difficulty will be smoothed for him and any just grievance will obtain prompt redress.

3. *In Regard to Patients.*—The British soldier regards his medical officer with the most unbounded confidence and places absolute reliance in his skill and judgment; therefore, never make a perfunctory examination or give a hasty opinion.

Spare no pains to insure that the soldier's confidence is invariably justified.

4. The keystone of efficiency in the Army is "loyalty": "Loyalty" to the Army and to the medical profession, "loyalty" to one's unit and commanding officer, "loyalty" to one's juniors.

MASSAGE: ITS PRINCIPLES AND PRACTICE. By James B. Mennell, M.A., M.D., B.C., Medical Officer, Physico-Therapeutic Department, St. Thomas' Hospital. With an Introduction by Sir Robert Jones, C.B., F.R.C.S., Colonel R. A. M. C., Inspector of Military Orthopedics. Cloth. Price, $3 net. Pp. 359, with 135 illustrations. Philadelphia: P. Blakiston's Son & Co., 1917.

This book is written by a physician of national reputation in Great Britain, whose education and experience in massage have been coincidental with, and modified by, a thorough medical training and a scientific habit of thought. The limitations and possible harmfulness of massage and exercises, as therapeutic measures, are pointed out and explained with the same care as are its indications and benefits; in fact, the book is written in a spirit of reasonable conservatism, evidently the result of thoughtful investigation. In no book that has come to the reviewer's hand has there been such clear and logical explanations of the results obtained by different forms of massage and of the indications for definite manipulations and maneuvers in different conditions, as in this one of Mennell's.

The chapters devoted to the technical methods best adapted to the treatment of the various ailments and conditions in which massage and exercise are indicated are full of ingenious and helpful suggestions, often of a mechanical or physiologic nature, which indicate the attention that the writer has brought to his work. Through it all there runs a note of enthusiasm which accounts for the author's success.

The relation of massage to military orthopedics, and the possibilities of the two when properly coordinated, are given special consideration and are of unusual interest because the author has worked out his conclusions in one of the military and orthopedic hospitals of England, under the direction and cooperation of Col. Sir Robert Jones, inspector of military orthopedics.

The illustrations, all photographic, are abundant and especially helpful in making clear the technical parts of the work. The index is unusually complete and helpful.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Third edition. Edited by Thomas Lathrop Stedman, A.M., M.D. Complete in eight volumes. Volume 8. Cloth. Price, $7. Pp. 782, with illustrations. New York: William Wood & Co., 1917.

The third revision of this admirable work is completed in the eighth volume, which bears evidence of the same careful handling by editors, authors and printers as former volumes. Among the outstanding topics in this volume are the history of surgery, syphilis, the transplantation of tissues, blood transfusion, trematoda and protozoa, urine and strabismus. The Carrel method of wound treatment is covered, and is an indication of the up-to-date character of the work. A careful study of a book by so many authors, whom one could hardly expect always to express unbiased opinions or to maintain the judicial attitude, would doubtless reveal many things to criticize. Likewise, depending, perhaps, on the view of the reader, omissions of what seem to him to be important things might be pointed out. For instance, it might fairly be said that such a matter as the diet in the treatment of typhoid fever patients is deserving of more than a mere reference in a half dozen lines. On the whole, however, there is little to criticize. The work of revision has been well done. The work makes a splendid foundation for an up-to-date library.

THE PHYSICIAN'S VISITING LIST (LINDSAY AND BLAKISTON'S) FOR 1918. Leather. Price, $1.25. Philadelphia: P. Blakiston's Son & Co., 1917.
THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1918. Leather. Price, $1.75. New York: William Wood & Co., 1917.

These handy lists have been revised for 1918. The Physician's Visiting List contains a table for calculating gestation, American table of mortality, comparison of thermometers, an article on asphyxia and apnea, a physician's dosage table based on the pharmacopeia, isolation period in contagious diseases, heights and weights, the usual blank pages, notes on the treatment of poisoning, and tables of weights and measures.

The Medical Record Visiting List contains calendars, tables for calculating gestation, weights and measures, the maximum adult dosage, table of diagnostic hints on contagious diseases, a page of interesting medical facts, treatment of poisoning and emergencies, signs of death, hints on the writing of wills, and the usual blank pages. Both are attractively bound in leather, with pockets for carrying memorandums, and a good pencil.

CAUSATION OF SEX IN MAN. A New Theory of Sex Based on Clinical Materials, Together with Chapters on Forecasting or Predicting the Sex of the Unborn Child and on the Determination or Production of Either Sex at Will. By E. Rumley Dawson, L.R.C.P., M.R.C.S. Cloth. Price, $3. Pp. 226, with 21 illustrations. New York: Paul B. Hoeber, 1917.

Dawson believes that the fundamental principle in the causation of sex is the ovary from which the ovum is discharged, the right side yielding the male, and the left side the female offspring. He cites extensive experiences, case histories, observations, etc., to prove this theory. The particular reason for publishing a new edition of the book at this time, the author says, is the desirability of increasing the birth of males to offset the large number of deaths associated with the war. The proposition of making the matter practical consists in determining which ovary is ovulating at a definite time. This, he believes, may somehow be made feasible through the roentgen ray or through working out from the data of a previous child's birth which ovary is working during certain months. This much must be said: The book is entertaining.

Medicolegal

No Authority for Payment of Special Fees

(State ex rel. Plant vs. Board of Commissioners of Ohio County (W. Va.), 92 S. E. R. 747)

The Supreme Court of Appeals of West Virginia refuses a writ of mandamus to the relator, a physician, to compel the board of commissioners to pay his bill for $150 for expert witness fees in a murder case wherein, in pursuance of an arrangement with the prosecuting attorney, he made physical and mental tests of the prisoner and examined into his family history, and thereafter testified in the case as a witness for the state. The judge of the criminal court entered an order directing the claim to be paid out of the state treasury, and when the auditor of the state refused payment thereof, entered an order that it be paid out of the treasury of Ohio County; but the board of commissioners declined to pay it. The supreme court says that it has no doubt the services rendered by the relator were material and important to the state in the particular case, and that his fees therefor were reasonable and morally just; but the legislature is the only body that has authority to provide for their payment. The courts of this state have no inherent power or authority to create liabilities on the county fund or the state treasury. The authority to do so must be found in some statute. This court knows of none, and was cited to none that authorized the criminal court of Ohio County to direct the payment of the relator's fees for services in obtaining information, to be thereby the better qualified to testify authoritatively as an expert witness on behalf of the state, on an inquiry into the sanity of a person charged with the commission of a crime. Moreover, Sections 3 and 4 of Chapter 16, Acts of 1904, make it unlawful for any county court to expend any money or incur any obligation not expressly authorized by law. Instead of being the duty of the board of commissioners of Ohio County to pay the relator's fees, it is expressly prohibited from doing so.

Power to Quarantine

(Crayton vs. Larabee et al. (N. Y.), 116 N. E. R. 355)

The Court of Appeals of New York, which reverses a judgment rendered for the plaintiff, and grants the defendants a new trial, says that this action was to recover the damages sustained by reason of an alleged unlawful quarantine of the plaintiff within her home at Syracuse. The defendants were the commissioner of public safety of the city, the health inspector in the department of public safety, the health officer, and a policeman assigned to assist the health officer. A woman living in a house adjoining that in which the plaintiff lived was ill with smallpox. The health officer, with the aid of the other defendants, quarantined from the 14th to the 29th of the month the house of the plaintiff, and within it herself and the other occupants of the house. The defendants presented evidence of their official capacities and of an ordinance of the city which provided: "All communication with any house or family infected with scarlet fever, smallpox or diphtheria and such other diseases as may be declared at any time by the commissioner dangerous or a menace to public health, is hereby forbidden except to physicians, nurses or messengers, to carry necessary advice, medicine and provisions and to such other persons as may be necessary to render aid within said house, for the support or assistance of said family. The health officer shall order isolation or absolute quarantine in such cases, or whenever he deems necessary, and take such other quarantine measures as he deems necessary in cases not above provided for." The trial justice charged the jury in effect that when the ordinance says that the health officer may, whenever he deems it necessary, quarantine a person or persons, that language must be taken to mean that he and they may quarantine a person suffering from an infectious disease or a person who has been exposed to such an infectious disease in such a manner that he or she is liable to take it himself or herself, or is liable to convey the disease to others; and he charged finally that, unless there had been an exposure in the manner stated, the quarantine "was not justified, and the board of health and the health officer were doing what they had no power under the law or under the ordinance or in any way to do; they were acting wrongfully, and for that wrong Mrs. Crayton is entitled to such damages as were occasioned to her by it." But neither the language nor the intention of the common council expressed by the language of the ordinance, nor the manifest purpose of its enactment, permits this court to approve the interpretation of it as charged by the trial justice. This court holds that the ordinance was authorized, was legally adopted, and was a reasonable and valid health regulation under the police power of the state, vesting in the health officer a stated discretionary power, which, if lawfully exercised, protected those exercising it against the consequent damages to persons or property. The general authority to the health officer absolutely to quarantine in cases of the designated diseases "wherever he deems necessary" was not intended to and does not confer on him unlimited power and right to control persons and property at his discretion. His action in such regard cannot be arbitrary, unreasonable or oppressive. The language was wisely chosen, and has a far different meaning. As a preliminary to his action, the health officer must deem the action necessary. He must adjudge his conclusion, that is, his conclusion must rest on his knowledge of the facts and of the correct rules for their interpretation and application acquired through a reasonable and fair investigation and consideration at such sources as a person of ordinary intelligence and perception, charged with the responsibilities of the office, would regard as authentic and trustworthy. The conclusion thus reached must be that the action he orders is essential to public health. Conditions must exist which render, within reason and fair apprehension, his action essential for the preservation of the health of the public. For a mere error of judgment the officer cannot be held liable.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Physiology, Baltimore

December, 1917, 45, No. 1

1 *Gastric Response to Foods. Determination and Significance of Intragastric Conductance. O. Bergeim, Philadelphia.—p. 1.
2 An Air-Tight Pleura Cannula. S. J. Meltzer, New York.—p. 12.
3 New Method of Obtaining Respiratory Gases in Animals, and Some of the Results. A. L. Meyer, New York.—p. 16.
4 *Viscosity of Lymph. R. B. Opitz and R. Nemser, New York.—p. 25.
5 Studies on Animal Diastases. Effect of Administration of Various Substances on Blood Diastase of Rabbits. C. K. Watanabe, New York.—p. 30.
6 Differentiation of Minimal Contraction in Skeletal Muscle. J. P. Eisenberger, Buffalo.—p. 44.
7 *Effect of Alcoholic Intoxication on Catalase. W. E. Burge, Chicago.—p. 57.
8 Hemodynamical Studies. R. B. Opitz, New York.—p. 62.
9 Reaction of Kidney Colloids and Its Bearing on Renal Function. R. Isaacs, Cincinnati.—p. 71.
10 *Physiology of Stomach. Origin of Epigastric Pains in Cases of Gastric and Duodenal Ulcer. A. J. Carlson, Chicago.—p. 81.
11 Obvious Consequences of High Rate of Blood Flow Through Suprarenals. G. N. Stewart, Cincinnati.—p. 92.

1. **Intragastric Conductance.**—By means of a retention stomach tube in the form of an electrolytic cell, intragastric conductance variations were studied by Bergeim in connection with determinations of total acidity, free hydrochloric acid, pepsin and trypsin. Aside from the swallowing of saliva, the conductance of which is low, intragastric conductance is, after the first hour or so of digestion, almost always considerably modified by the regurgitation of pancreatic juice or bile or both and possibly to a lesser extent by pyloric and duodenal secretions. The conductance of pancreatic juice and bile being usually very low as compared with that of the gastric

contents at maximum acidity, regurgitation tends to markedly lower intragastric conductance as well as acidity. Conductance, however, rises relative to free hydrochloric acid on account of the higher salt content of these regurgitated secretions. After the ingestion of mineral acid, neutralization is brought about in the same manner as during digestion. In achylias where intragastric digestion is mainly pancreatic in character the conductance was found to parallel the concentration of pancreatic juice as measured by the tryptic index.

4. **Viscosity of Lymph.**—The results obtained by Opitz and Nemser show that large doses of normal saline solution tend to lessen the viscosity in a slight measure. Smaller doses, on the other hand, may increase it, presumably on account of the fact that the more favorable dynamic conditions subsequent to the injection tend to augment the absorption and the transfer of the lymph to central channels. A very rapid reduction of the viscosity results, however, if the injections of saline solution are preceded by a moderate hemorrhage. Under this condition, very naturally, the blood and lymph pressures must suffer, allowing a more prompt "thinning" of the latter to take place. In the experiments here cited 200 c.c. of blood were displaced by an equal quantity of saline solution. The tests were made fifteen minutes after the injection.

7. **Effect of Alcoholic Intoxication on Catalase.**—According to Burge the introduction of alcohol into the stomach greatly increases the catalase of the blood, while the introduction of alcohol directly into the vascular system decreases the catalase of the blood. The decrease in catalase produced by the introduction of alcohol directly into the blood is due to the destruction of the catalase by the alcohol. Further work is necessary before an explanation can be given for the increase in the catalase of the blood when alcohol is absorbed from the alimentary tract into the blood.

10. **Epigastric Pain in Gastric and Duodenal Ulcer.**—All the evidence obtained by Carlson from the study of a patient, points to the fact that the pains of gastric and duodenal ulcers are contraction pains arising either in the stomach or in the pylorus and upper part of the duodenum. In the case of the stomach the contractions are usually not stronger than those of normal digestion peristalsis of the filled or the hunger tonus rhythm of the empty stomach. This points clearly to a condition of hyperexcitability of the gastric pain nerves in the ulcer patients experiencing the typical ulcer pains. Since the ulcer pains are due to tension of excessive contractions or of normal contractions on hyperexcitable pain nerves, it is evident that pathologic states other than ulcer, inducing such hyperexcitability or hypermotility, will cause symptoms of gastric ulcer pains practically identical with those of ulcer, as appears to be the case in many instances of appendicitis, cholecystitis and achylia. The contraction origin of the ulcer pains also helps to account for the many cases of gastric ulcer not accompanied by pain and serves to emphasize the fact that elimination of the ulcer pains is no criterion of healing of the ulcer.

American Review of Tuberculosis, Baltimore

December, 1917, **1**, No. 10

12 *Effect of Pulmonary Tuberculosis on Renal Function. C. W. Mills and J. T. Henderson, New York.—p. 573.
13 * Cultivation of Tubercle Bacilli from Circulating Blood in Miliary Tuberculosis. M. C. Clough, Baltimore.—p. 598.

12. **Effect of Tuberculosis on Renal Function.**—In pulmonary tuberculosis unaccompanied by clinical evidence of renal disease, according to Mills and Henderson, tests for renal function, including phenolsulphonephthalein, lactose, blood urea, Ambard's coefficient and Mosenthal's test meal, show a normal or only slightly lowered function in all stages of the disease. Slight lowering of function, sometimes found by Mosenthal's test, is more apt to be found in far advanced and unfavorable types of the disease than in favorable types. Renal tuberculosis, and apparently extrarenal genito-urinary tuberculosis, give a characteristic picture with Mosenthal's test which may be of help in diagnosis. The other tests in this condition show only slight if any indication of lowered function. Cases of terminal edema in pulmonary tuberculosis show a characteristic picture by Mosenthal's test, with a marked decrease in water and sodium chlorid elimination. Whether this is due primarily to renal or cardiac conditions has not been determined. A good working rule in pulmonary tuberculosis practice for employing these tests would appear to be as follows: When there is any suspicion of nephritis or genito-urinary tuberculosis a Mosenthal test and a phenolsulphonephthalein test should be made for the valuable diagnostic and prognostic help they may afford. In the absence of clinical symptoms of renal disease, if the urine shows albumin in amount beyond a trace, or casts other than a few hyaline, a Mosenthal test should be made. If this is positive the case should be kept under careful observation for the development of renal disease.

13. **Cultivation of Tubercle Bacilli from Blood.**—Clough states that the occurrence of tubercle bacilli in the circulating blood, at least in sufficient number to infect a guinea-pig, is relatively infrequent (6.7 per cent.) in all forms of tuberculosis other than miliary tuberculosis, whereas in miliary tuberculosis, tubercle bacilli occur in the blood in a large percentage (66.6 per cent.) of cases. Tubercle bacilli have been grown in culture by Clough for the first time from the circulating blood of five patients with miliary tuberculosis. Blood cultures are suggested as an aid in the differential diagnosis of acute miliary tuberculosis from other nontuberculous infections, and as a means of studying bacillemia in all forms of tuberculous disease. Direct cultures from spinal, pleural, peritoneal, and other fluids are recommended in those cases in which tubercle bacilli cannot be demonstrated by smears.

Archives of Internal Medicine, Chicago

December, 1917, **20**, No. 6

14 *Studies of Heart's Functional Capacity. T. B. Barringer, Jr., New York.—p. 829.
15 *Five Generations of Angioneurotic Edema. J. R. Crowder, Sullivan, Ind., and T. R. Crowder, Chicago.—p. 840.
16 *Experimental Hydronephrosis. Changes in Kidney Following Partial Ureteral Obstruction. N. M. Keith and D. S. Pulford, Jr., Baltimore.—p. 853.
17 *Nonprotein Constituents of Edema Fluids. W. Denis and A. S. Minot, Boston.—p. 879.
18 *Case of Cantharides Poisoning with Special Reference to Blood Picture. S. T. Lipsitz and A. J. Cross, St. Louis.—p. 889.
19 *Effect of Pancreatectomy on Catalase Content of Tissues. J. Kennedy, Chicago, and W. E. Burge, Urbana.—p. 892.
20 *Iron Metabolism of Hemochromatosis. C. P. Howard and F. A. Stevens, Iowa City, Iowa.—p. 896.
21 Polycythemia Induced by Tincture of Cantharides. S. T. Lipsitz, A. L. Fuerth and A. J. Cross, St. Louis.—p. 913.
22 Acute Mercuric Chlorid Nephrosis; Report of Two Cases. W. R. Campbell, Toronto, Canada.—p. 919.
23 *Studies on Acidosis. Immediate Cause of Death in Acidosis of Nephritis. J. L. Whitney, San Francisco.—p. 931.
24 *Acute Arthritis Cases Treated by Intravenous Injection of Foreign Protein. R. L. Cecil, New York.—p. 951.
25 Blood Sugar in Hyperthyroidism. W. Denis, J. C. Aub and A. S. Minot, Boston.—p. 964.

14. **Heart's Functional Capacity.**—It can be gathered from the studies described by Barringer that the cardiac reserve power may be very low in a man with perfectly normal heart as well as in a man with diseased heart.

15. **Angioneurotic Edema.**—The family whose history forms the basis of the Crowders study from the first to the fifth generation consisted of sixty-four individuals. Among them there have been twenty-eight cases of angioneurotic edema and fifteen deaths from an acute form of the disease. That is, of sixty-three known descendants of J. C. twenty-seven, inherited his disease, and fourteen of these died of it. The cases have been about equally divided between males and females.

16. **Experimental Hydronephrosis.**—Bilateral, partial ureteral obstruction in dogs produced changes in renal function and structure. Rapid restoration of normal renal function took place when the ureteral obstruction was removed within a week. The progress and extent of the pathologic lesion in the kidney depended on the amount and duration of the intraureteral pressure, and, in a lesser degree, on the invariable secondary pelvic infection. Histologic examination as early as the second day after the initial obstruction revealed congestion and granular degenerative processes. Beginning with the seventh day, these changes were accompanied by connec-

tive tissue infiltration which gradually increased until eventually the kidney parenchyma was replaced by a connective tissue sac.

17. **Nonprotein Constituents of Edema Fluids.**—Results obtained by the quantitative examination of various types of edema fluid for their nonprotein constituents are presented by Denis and Minot. As a result of these analyses the following conclusions have been made: 1. Many of the nonprotein constituents of the fluids which belong to the class of crystalloids, among which may be mentioned urea, uric acid, and creatinin, occur in the same concentration in exudates and transudates as in the blood. The sugar content of ascitic fluids is somewhat higher than that of the blood, a finding not made in the case of the examples of pleuritic fluid analyzed. In transudates, total creatin occurs only in small amounts. In fluids of the more purely exudate type it is present in considerably higher concentrations, frequently approaching closely the concentration found in whole blood. 2. Fat and cholesterol occur in transudates in relatively small amounts. In fluids obtained from acute cases the content of fat and cholesterol rises and the former may at times approximate the concentrations found in blood. 3. In a patient with ascites from whom fluid was withdrawn every six to eight days, it was shown that the concentration of urea, uric acid and cholesterol in the fluid could be easily influenced by changes in diet.

18. **Cantharides Poisoning.**—This patient presented a most marked erythremia (10 million) shortly after the incidence of the poisoning, and this continued, though to a somewhat less degree, for a number of days. The patient's temperature was subnormal in the beginning but later became normal. There was slight acceleration in the pulse rate. There were no ocular findings and the Wassermann was negative. He was discharged in good condition, twenty days after admission.

19. **Pancreatectomy and Tissue Catalase.**—Extirpation of the pancreas decreases the catalase content of the liver by about 75 per cent., which results in the decreased output of catalase into the blood and hence a lessened supply to the tissues. Kennedy and Burge suggest that the decreased catalase content of the tissues may account for the imperfect or defective oxidation in diabetes, since the amount and intensity of oxidation is so inseparably linked with catalase.

20. **Iron Metabolism of Hemochromatosis.**—In one case studied by Howard and Stevens late in the course of the disease there was evidence of a slight but definite retention of the food iron without any sign of undue destruction of red blood cells, suggesting that hemochromatosis may depend, therefore, on some injury to the liver resulting in a hepatitis, and this in turn to a disturbance of the iron metabolism, and so to a slight and prolonged retention of the iron both exogenous and endogenous.

23. **Studies on Acidosis.**—As a result of the study of a series of cases of nephritis it appears that two factors are necessary to produce acidosis: failure of the power of elimination and an increase in the production of acid in the body. Cases with two-hour phenolsulphonephthalein output over 30 per cent. show acidosis only if there is a severe toxemia, while those below 30 per cent. show acidosis as a rule. As causes of increased acid production in nephritis, the toxemia of the active parenchymatous form is itself operative; infection is an even more powerful factor. Infection seems to have a very marked influence in causing acidosis. All but one case in this series showing acidosis had evidence of severe infection. The cases which did not show acidosis did not have infection. A patient may, however, have marked infection with intoxication and show no acidosis provided his powers of elimination are active.

24. **Arthritis Treated by Injection of Foreign Protein.**—Forty cases of acute arthritis were treated by intravenous injections of typhoid or gonococcus vaccine. Thirteen of these patients made a rapid recovery without recourse to any other treatment. Of the remaining twenty-seven cases, all but two showed improvement while receiving the vaccine. Twenty of the twenty-seven, however, received salicylates before complete recovery took place. In the seven cases of acute gonococcus arthritis all of the patients showed gradual improvement under vaccine, but it was impossible to say how much of a factor the vaccine was in these cases. The reaction produced by the vaccine is usually severe, consisting of a chill, with rapid rise in temperature, headache, and often nausea and vomiting. During this reaction there is a well-marked leukocytosis. Both the temperature and the leukocytes usually return to normal in a few hours. This method is recommended by Cecil only in carefully selected cases, after salicylates and other well established methods of treating arthritis have failed.

Arkansas Medical Society Journal, Little Rock

December, 1917, **14**, No. 7

26 Red Cross Activities. A. Fairbank, St. Louis.—p. 139.
27 Military Surgery. C. Bernard.—p. 140.
28 Diseased Tonsils; Influence on Health and Technic of Removal. L. H. Lanier, Texarkana.—p. 147.

Boston Medical and Surgical Journal

December 20, 1917, **177**, No. 25

29 *Value of Diagnosis in Back Lesions. J. W. Sever, Boston.—p. 857.
30 *Availability of Dicalcium Phosphate when Present as Constituent of Infants' Food. H. I. Bowditch and A. W. Bosworth, Boston. —p. 864.
31 Anthrax as Occupational Disease in Massachusetts. T. F. Harrington, Boston.—p. 867.
32 Series of Fractured Skulls from Records of Boston City Hospital, 1902-1917. C. T. Harris and H. A. Nissen, Boston.—p. 870.
33 Treatment of Myelogenous Leukemia with Radium. F. W. Peabody, Boston.—p. 873.
34 Observations at Peter Bent Brigham Hospital on Cases of Pneumonia in Relation to Types of Pneumococci and Serum Treatment of Type I Cases. H. L. Alexander, Boston.—p. 874.

29. **Value of Diagnosis in Back Lesions.**—Sever insists that no individual who complains of pain, soreness or stiffness in the back, following an injury or fall, should go without careful examination of the back.

30. **Dicalcium Phosphate as Constituent of Infants' Food When Present.**—It is pointed out by Bowditch and Bosworth that in calculating the amount of mineral elements present in modified cow's milk for use in infant feeding, the dicalcium phosphate should be considered as unavailable, and a corresponding deduction made from the total mineral elements in milk. The authors show that during the process of digestion of calcium caseinate the calcium and phosphorus contained within the calcium caseinate may unite to form insoluble calcium phosphate and appear in the feces as such, the calcium and phosphorus balances under these conditions becoming negative. By feeding a large amount of soluble calcium it is possible to precipitate practically all the phosphorus in the food as insoluble calcium phosphate, this substance being eliminated in the feces, and as a result of this the metabolism of phosphorus is reduced to such a low level that the urine becomes phosphorus-free.

Bulletin of Johns Hopkins Hospital, Baltimore

December, 1917, **28**, No. 322

35 *Cultivation of Tubercle Bacilli from Circulating Blood in Miliary Tuberculosis. M. C. Clough, Baltimore.—p. 363.
36 Fibroid Tumors of Vulva; Report of Twelve Cases and Digest of Literature. V. N. Leonard, New York.—p. 373.

35. Also published in the *American Review of Tuberculosis*, December, 1917. See Abstract 13.

Canadian Medical Association Journal, Toronto

December, 1917, **7**, No. 12

37 Treatment of Nerve, Muscle and Joint Injuries in Soldiers by Physical Means. R. T. McKenzie.—p. 1057.
38 Use of Epsom Salts, Historically Considered. R. D. Rudolf, Toronto.—p. 1069.
39 Treatment of Fractures. F. R. England, Montreal.—p. 1072.
40 Some Common Foot Conditions and Their Treatment. J. A. Nutter, Montreal.—p. 1077.
41 Cyclic Vomiting in Relation to Acid Intoxication. J. Loudon, Toronto.—p. 1084.
42 Foci of Infection in Tonsils. J. E. Hett, Kitchener.—p. 1090.
43 Treatment of Bacillary Dysentery. A. A. Fletcher.—p. 1094.
44 Primary Asthma in Pregnant Multipara. W. G. Hepworth, Steveston, B. C.—p. 1097.

Journal of Biological Chemistry, Baltimore

December, 1917, **32**, No. 3

45 Preparation of Cyanamid. A. E. Osterberg and E. C. Kendall, Rochester, Minn.—p. 297.

46 Study of Amino Nitrogen and Glucose in Lymph and Blood Before and After Injection of Nutrient Solutions in Intestine. B. M. Hendrix and J. E. Sweet, Philadelphia.—p. 299.

47 Nutritive Factors in Animal Tissues. T. B. Osborne and L. B. Mendel, New Haven, Conn.—p. 309.

48 Applications of Gas Analysis. Carbon Dioxid Tension of Venous Blood and Circulation Rate. Y. Henderson and A. L. Prince, New Haven, Conn.—p. 325.

49 Id. Apparatus for Study of Respiratory Exchange in Small Animals. A. L. Prince, New Haven, Conn.—p. 333.

50 Relationship between Cholesterol and Cholesterol Esters in Blood During Fat Absorption. A. Knudson, Albany, N. Y.—p. 337.

51 Biologic Analysis of Pellagra Producing Diets. Values of Some Seed Proteins for Maintenance. E. V. McCollum and N. Simmonds, Madison, Wis.—p. 347.

52 *Use of Soy Bean as Food. T. B. Osborne and L. B. Mendel, New Haven, Conn.—p. 369.

53 Studies of Gastric Residuum. Total Phosphorus. C. C. Fowler, Ames, Iowa.—p. 389.

54 Studies on Enzyme Action. Formation of Ester-Hydrolyzing Substances by Action of Alkali on Proteins. F. H. Frankel, New York.—p. 395.

55 Value of Yeast Vitamin Fraction as Supplement to Rice Diet. A. D. Emmett and L. H. McKim, Detroit.—p. 409.

56 Animal Calorimetry. Interrelation Between Diet and Body Condition and Energy Production During Mechanical Work. R. J. Anderson and G. Lusk, New York.—p. 421.

57 Method for Preparation of Uniform Collodion Membranes for Dialysis. C. J. Farmer, Milwaukee, Wis.—p. 447.

58 Studies of Acidosis. Determination of Betahydroxybutyric Acid, Aceto-Acetic and Acetone in Urine. D. D. Van Slyke, New York.—p. 455.

59 Id. Determination of Betahydroxybutyric Acid, Aceto-Acetic Acid, and Acetone in Blood. D. D. Van Slyke and R. Fitz, New York.—p. 495.

60 Id. Relationship Between Alkali Retention and Alkali Reserve in Normal and Pathologic Individuals. W. W. Palmer and D. D. Van Slyke, New York.—p. 499.

61 Studies on Blood Serum. Influence of Pancreatic Digestion on Proteolytic Activity and Noncolloidal Nitrogen Content. W. H. Welker and F. H. Falls, Chicago.—p. 509.

62 Id. Influence of Pregnancy on Proteolytic Activity. F. H. Falls and W. H. Welker, Chicago.—p. 515.

63 Id. Influence of Puerperium on Proteolytic Activity. F. H. Falls and W. H. Welker, Chicago.—p. 519.

64 Id. Proteolytic Activity as Affected by So-Called Antitryptic Adsorbents. W. H. Welker and F. H. Falls, Chicago.—p. 521.

65 Influence of Conditions of Bacterial Cleavage of Proteins on Cleavage Products. T. Sasaki, Tokyo, Japan.—p. 527.

66 Stereochemistry of Bacterial Decomposition of Albumin. T. Sasaki and I. Otsuka, Tokyo, Japan.—p. 533.

67 Catalase Activity of American Wheat Flours. C. H. Bailey, St. Paul, Minn.—p. 539.

52. Use of Soy Bean as Food.—Osborne and Mendel's study shows that the soy bean is relatively poor in calcium and chlorin. The addition of a small amount of calcium carbonate to a food in which the soy bean was the sole source of mineral constituents tended to stimulate growth to some extent, though not so efficiently as the addition of the more complex salt mixture mentioned above. On diets containing either the soy bean meal or the commercial soy cake meal, together with fats and "protein-free milk" or the authors' "artificial" salt mixture, several broods of vigorous young have been produced, and these young have grown normally on diets the same as those on which their parents were raised. This is a further demonstration of the nutritive efficiency of this legume, in striking contrast with the adverse results obtained with kidney beans and garden peas. The soy bean is the only seed hitherto investigated, with the possible exception of flax and millet, which contains both the water-soluble and the fat-soluble unidentified dietary essentials or vitamins. This fact, taken with the high physiologic value of the protein, lends a unique significance to the use of the soy bean as food.

Journal of Infectious Diseases, Chicago

December, 1917, **21**, No. 6

68 Methods of Preparing Pollen Antigen. R. O. Clock, Pearl River, N. Y.—p. 523.

69 *Chronic Arthritis in Swine. S. Sekiguchi and E. E. Irons, Chicago.—p. 526.

70 *Effect and Nature of Toxin Produced by B. Paratyphosus B. E. E. Ecker, Chicago.—p. 541.

71 Differentiation of Paratyphoid Enteritidis Group. Lead Acetate Agar. E. O. Jordan and R. Victorson, Chicago.—p. 554.

72 Hydrogen-Ion Concentration of Cerebrospinal Fluid. A. Levinson, Chicago.—p. 556.

73 Precipitation of Cerebrospinal Fluid in Diagnosis of Meningitis. S. Tashiro and A. Levinson, Chicago.—p. 571.

74 *Toxin of B. Welchii. P. H. DeKruif, T. W. Adams and P. M. Ireland, Ann Arbor, Mich.—p. 580.

75 *Id. Mechanism of Infection with Bacillus Welchii. P. H. DeKruif and J. L. Bollman, Ann Arbor, Mich.—p. 588.

69. **Bacteriology of Chronic Arthritis.**—In seventeen of twenty-one cases of chronic arthritis in swine, bacteria were found by Sekiguchi and Irons either in culture or in sections. The bacilli isolated from the joints in these cases are culturally alike, and in morphology and most cultural reactions resemble *B. pyogenes.* Lesions of joints were produced experimentally by subcutaneous as well as by intravenous inoculation of bacilli. The authors found no clear evidence of infection by way of the respiratory tract, although a chronic sinusitis was found in one hog.

70. **Toxin Produced by B. Paratyphosus B.**—In Ecker's opinion the assumption seems justified that toxic compounds are present in young filtered broth cultures of *B. paratyphosus* B, and the immunity experiments tend to show that the toxins produced by these bacilli are bodies with antigenic properties.

74. **Toxin of Bacillus Welchii.**—The toxicogenic power of ten strains of *B. welchii* was tested by the authors with the result that all the strains were found to produce toxin in greater or less degree. An antitoxin produced by the injection of toxin from a single strain is capable of neutralizing all of the toxins. Various methods of toxin production have been tested. It is necessary only to boil the medium before use.

75. **Mechanism of Infection with B. Welchii.**—DeKruif and Bollman believe that the acidity of cultures of *B. welchii* is not the prime cause of their ability to produce experimental infections. Bacilli, removed from broth cultures by centrifugation and subsequently washed with large volumes of 0.85 per cent. sodium chlorid, are far less infectious than equal numbers of organisms not separated from the medium in which they have grown. The virulence of washed organisms is increased at least 10,000 fold by the simultaneous injection of nonlethal amounts of neutralized culture filtrate. This aggressive activity of the culture filtrate is destroyed by heating to 70 C. for thirty minutes, and by the addition of the specific Welch antitoxin. It is concluded from this that the aggressin of the filtrate and the toxin are identical. The aggressive substance (toxin) seems to act by reason of its necrotic effect and not by a negative chemotactic influence on leukocytes.

Journal of Medical Research, Boston

November, 1917, **37**, No. 2

76 *Fate of Staphylococcus Pyogenes Aureus Introduced Intravenously into Actively Immunized Dogs; and of Killed Bacteria Introduced Intravenously into Normal Dogs. H. Ito, New Haven, Conn.—p. 189.

77 Wassermann Reaction with Diabetic Serums. A. I. van Saun, Albany, N. Y.—p. 205.

78 Study of Bact. Abortus (Bang) in Milk by Means of Agglutination Test. L. H. Cooledge, Ann Arbor, Mich.—p. 207.

79 *Action of Benzol. Spontaneous Infections with Special Reference to Diphasic Leukopenia (Rabbit). H. G. Weiskotten and H. S. Steensland, Syracuse, N. Y.—p. 215.

80 *Triple Sugar Modification of Russell Doule Sugar Medium. C. Krumwiede, Jr., and L. A. Kohn, New York.—p. 225.

81 Auto and Homioplastic Transplantation of Kidney Tissue. L. Loeb, St. Louis.—p. 229.

82 Phagocytosis of Bacteria in Excised Spleen After Perfusion with Locke's Solution. Y. Ozaki.—p. 247.

83 *Fate of Bacterial Spores in Animal Body. S. A. Koser and J. R. McClelland, New Haven, Conn.—p. 259.

84 Glycerin Bouillon Reaction Curve of Tubercle Bacilli as Recorded by Bovie Potentiometer. L. Frothingham, New Haven, Conn.—p. 269.

85 Sensitization of Hay Fever and Asthmatic Patients to Proteins Found in Different Parts of Plants and to Individual Proteins of Cereals. I. C. Walker and J. Adkinson, Boston.—p. 277.

86 Comparison Between Cutaneous and Intradermal Tests in Sensitization of Asthmatic and Hay Fever Patients. I. C. Walker and J. Adkinson, Boston.—p. 287.

87 Fatal Disease of Japanese Waltzing Mouse Caused by Spore Bearing Bacillus (Bacillus Piliformis, N. Sp.). E. E. Tyzzer, Boston.—p. 307.

88 *Rapid Method for Determination of Pneumococcus Types. O. W. H. Mitchell and W. E. Muns, Syracuse, N. Y.—p. 339.
89 Ereptic Ferment in Rabbit Leukocytes. J. T. Parker and E. Franke, New York.—p. 345.

76. **Fate of Staphylococcus Pyogenes Aureus.**—Ito claims that bacteria introduced into actively immunized dogs disappear sooner than in normal dogs, and never were found growing in any part of the body. Bacteria that accumulate in the lungs in the earlier stage are transported to the other organs, but they are not found in the spleen in large numbers, while they are more numerous in the liver. In the several organs it appears that both fixed and wandering phagocytes have the ability to engulf, as well as to digest bacteria, throughout all the stages. As to the fate of killed bacteria introduced into normal dogs, they are destroyed somewhat quicker than the living bacteria introduced into immunized dogs, and they provoke no changes evident histologically in the tissues.

79. **Action of Benzol.**—The four rabbits studied by Weiskotten and Steensland exhibited periods of spontaneous infection coinciding with periods of exposure to the action of subcutaneous injections of olive oil-benzol mixture (equal parts of olive oil and benzol). During daily subcutaneous injections of olive oil-benzol mixture there developed evidences of active acute infection, which evidences were not present before injections were begun. In at least two of the rabbits infections present before injections were begun were "lighted up" after injections were begun. In none of the rabbits did there occur diphasic leukopenia and in only one aplasia of the marrow, such as are produced in similarly treated noninfected rabbits.

80. **Triple Sugar Modification.**—Krumwiede and Kohn found that when Andrade's indicator is substituted for litmus in the Russell medium, sharper results are obtained. By the use of a triple sugar medium, many of these types, which give a doubtful or typical paratyphoid reaction on Russell's medium, are promptly excluded. For the preparation of the triple sugar medium the authors use a stock agar, containing 1.5 per cent. agar, 0.3 per cent. meat extract, 1 per cent. peptone and 0.5 per cent. salt. This is adjusted roughly at slightly alkaline to litmus (or 0.6 per cent. acid to phenolphthalein, by hot titration) and finished in the usual way. At the time of use, 1 per cent. of lactose, 1 per cent. of saccharose, and one-tenth per cent. glucose are added to the melted agar. These are conveniently added from a stock solution containing 20 per cent. lactose, 20 per cent. saccharose, and 2 per cent. glucose, sterilized intermittently. Five c.c. of this solution added to each 100 c.c. of agar gives the required concentrations. One per cent. of the Andrade indicator is then added, and the reaction adjusted.

83. **Bacterial Spores in Animal Body.**—The spores of *B. tetani, B. putrificus, B. anthracis-symptomatici* and *B. edematis-maligni* were found by Koser and McClelland to be capable of resisting the destructive influence of the body tissues, and may be transported from the site of inoculation to different organs, where they remain latent for varying periods of time. The persistence of the spores in the liver and spleen, as well as at the point of entry, is of particular interest. These observations may prove to be of some practical interest in connection with the subject of wound infection, gangrene, and so-called blood poisoning.

88. **Determination of Pneumococcus Types.**—In an attempt to improve the tests for pneumococcus differentiation, a method for detecting precipitinogen, derived from pneumococci in the sputum, has been devised by Mitchell and Muns. The test yields valuable and quick results. By its use the injection of a mouse or the use of a culture is unnecessary, and Type I infections may usually be ascertained within an hour or two after the sputum is collected. The sputum is collected in a sterile container. Five c.c. of the sputum are pipetted into a small mortar. Relatively fine sand is added in sufficient quantity to make a rather stiff mixture. The mixture is ground with a pestle for about three minutes to reduce the thick tenacious mass into a gritty fluid paste. Ten c.c. of physiologic sodium chlorid solution are then added, 2 c.c. at a time. The sputum, sand and saline are mixed a minute or two and the sand is allowed to settle to the bottom. After three or four minutes the dissolved sputum collects over the sand and is pipetted off into a clean centrifuge tube.

The fluid is usually thin, milky and uniform, and amounts to about 9 c.c. Ten c.c. of physiologic sodium chlorid solution are now added to the sand in the mortar. After mixing well, as before, the fluid is pipetted off into a second centrifuge tube. In this manner two solutions of the sputum are provided. The first more concentrated solution may be used for the immediate test, and the second less concentrated solution may be held for use in case of accident to the first solution. Both solutions are centrifugalized at high speed long enough to completely clear the fluid. This operation requires from five to ten minutes, at 2,200 revolutions per minute. The sputum in solution is brought in contact with the three types of antipneumococci serums 1 c.c. of the former to 0.2 c.c. of the latter. Often the first evidence of a positive reaction is seen a few minutes after the mixing of the serum and the sputum solution. The mixture is a slightly opalescent fluid with a faint smoky "whirl" on shaking. The disappearance of the "whirl" seems to be the first phenomenon of specific reaction. Then, on warming in the water bath for a few minutes, a very slight feathery precipitate may be seen with the naked eye on close examination. The examination may be so facilitated by the use of a lens that the precipitate may be distinctly seen two or three minutes after the mixture of serum and sputum solution is made. As the tubes are left at rest in the water bath, the feathery white flakes drift to the bottom of the tube and collect in a typical white mass. In a negative test there is no reaction of any kind and very little sedimentation.

Maine Medical Association Journal, Portland

December, 1917, 8, No. 5

90 Medical Educational Methods. E. W. Gehring, Portland.—p. 129.
91 War Work of American Medical Women. E. M. Mosher, Brooklyn. —p. 139.

Mental Hygiene, New York

October, 1917, 1, No. 4

92 Care and Treatment of Mental Diseases and War Neuroses (Shell Shock) in British Army. T. W. Salmon, New York.—p. 509.
93 Insane, Feebleminded, Epileptics and Inebriates in Institutions in United States, January 1, 1917. H. M. Pollock and E. M. Furbush, New York.—p. 548.
94 Alienists and Psychiatrists. E. E. Southard, Boston.—p. 567.
95 Mental Health of Community and Work of Psychiatric Dispensary. C. M. Campbell, Baltimore.—p. 572.
96 Feeblemindedness and Delinquency. J. E. W. Wallin, St. Louis. —p. 585.
97 Illegitimacy and Feeblemindedness. J. P. Murphy, Boston.—p. 591.
98 Feeblemindedness and Probation. H. C. Parsons, Boston.—p. 598.
99 Segregation of Unfit in Reformatories. G. G. Fernald, Concord. —p. 602.

Medical Record, New York

December 22, 1917, 92, No. 25

100 Diagnosis and Treatment of Pathologic Conditions in Anterior Urethra Through Urethroscope. M. Huhner, New York.—p. 1057.
101 Intubation in Laryngeal Diphtheria. H. B. Sheffield, New York. —p. 1068.
102 Reorganization of New York City Children's Hospital and School. W. B. Cornell, New York.—p. 1070.
103 Significance of Negative Sputum Examinations in Pulmonary Tuberculosis. M. H. Kahn, New York.—p. 1072.
104 Amaurotic Family Idiocy or Infantile Degeneration with Symmetrical Bilateral Blindness. E. J. Bernstein, Detroit.—p. 1074.
105 Iodized Hydrid Antisepsis a Half Century Ago. R. F. Ofrias, New York.—p. 1075.

New York Medical Journal

December 15, 1917, 106, No. 24

106 Food Conservation. A. Bassler, New York.—p. 1109.
107 Tonsilloscopy and Curettage of Tonsils in Adults. T. R. French, New York.—p. 1115.
108 Internal Hemorrhoids. H. A. Brav, Philadelphia.—p. 1118.
109 Cure at Vichy in Seventeenth Century. G. Hinsdale, Hot Springs, Va.—p. 1121.
110 Physical Training and Hygiene for Busy People. L. F. Fuld, New York.—p. 1123. To be continued.
111 Cases of Laryngeal Stenosis as Complication of Measles. M. F. Morris, Jr., New York.—p. 1125.
112 Condyloma Acuminatum in Anal Region in Male. C. E. Hyde, Bridgeport, Conn.—p. 1125.

December 22, No. 25

113 Fractures. Improved Technic in Closed Methods of Treatment. C. Ogilvy, New York.—p. 1157.
114 Care of Ears. W. C. Phillips, New York.—p. 1159.
115 Quinin and Urea Hydrochlorid. J. F. Saphir, New York.—p. 1161.
116 Production of Antituberculous Serum. M. Staller, Philadelphia. —p. 1166. To be continued.
117 Highway Accidents in City of New York. S. W. Wynne, New York.—p. 1171.
118 Case of Sporadic Pellagra. M. E. Alexander, Waterbury, Conn. —p. 1174.
119 Frozen Feet, or Trench Foot So-Called. H. Authelain, France.—p. 1176.

Philippine Journal of Science, Manila

September 12, 1917, Sec. B, No. 5

120 *Bactericidal Action of Certain Chemicals on Cholera Vibrios with Body of Experimental Cholera Carriers. O. Schöbl, Manila.—p. 215.
121 Incidence of Age, Atheroma and Aneurysms as Seen in Necropsies of Filipinos. C. H. Manlove, Manila.—p. 233.
122 *Substitution of Human Blood Cells by Monkey's Red Corpuscles in Performing Complement Fixation Test for Syphilis. O. Schöbl and C. Monserrat, Manila.—p. 249.

120. Action of Certain Chemicals on Cholera Vibrio.—The author tested various chemicals: the benzenes, chloroform group, phenols, oils and resins, alkaloids, metals and anilin dyes. None of the chemicals gave such prompt curative effect as to bring about complete disappearance of cholera vibrios from the animal's body in every case. The drugs of the phenol group and the arsenic compounds are of some promise. Combination treatment by several drugs suggests itself also.

122. Use of Monkey's Blood in Fixation Test for Syphilis.—The absence of natural hemolytic amboceptor in human serum makes the use of antihuman amboceptor and human red cells preferable to those methods which employ antisheep hemolytic system. However, there is a practical difficulty connected with this method, namely, the comparatively low titer of the antihuman amboceptor as usually obtained by immunization of rabbits with human red corpuscles. A considerable number of injections is necessary, and strictly fresh blood not always being available to a laboratory worker who happens to be without direct connection with a hospital or a similar institution, a high percentage of rabbits die before they yield serum strong enough to be useful for a test. It occurred to Schöbl and Monserrat that, on account of the biologic relationship, monkey's red cells may probably behave in a similar way as human corpuscles in this respect. The results of the tests of forty serums collected at random over a period of several months showed that none of them, in the quantity used, contained a sufficient amount of natural amboceptor to cause hemolysis when brought in contact with red corpuscles of monkey and guinea-pig's complement. The majority of the same serums, however, contained a considerable amount of antisheep natural hemolytic amboceptor. Two injections of monkey's red cells are sufficient to produce serum of 100 hemolytic units per cubic centimeter, which is useful serum for tests. This can be accomplished within thirteen days, using not more than from 2.5 to 3 c.c. of blood. Hemolytic serums of higher value can be obtained by immunization of rabbits with monkey's cells than it is possible by immunization with human red corpuscles. Comparative tests for diagnosis of syphilis carried out on samples collected at random gave identical results, whether antihuman or antimonkey hemolytic system was used.

Public Health Journal, Toronto

December, 1917, 8, No. 12

123 Contribution of Health Insurance to Improvement of Public Health. M. M. Dawson, New York.—p. 313.
124 Health Insurance, Practice of Medicine and Public Health. T. M. Rubinow, New York.—p. 318.
125 Need of Health Insurance. I. Fisher, New Haven, Conn.—p. 328.
126 Detection and Isolation of Intracellular Meningitis Diplococcus. R. D. Defries, Toronto.—p. 337.
127 Influence of Mental Defectives on Public Health. H. McMurchy, Ont.—p. 341.

Vermont Medicine, Rutland

November, 1917, 2, No. 11

128 Some Public Health Lessons of War. C. S. Caverly, Rutland.—p. 257.

West Virginia Medical Journal, Huntington

October, 1917, 13, No. 4

129 Care of Injuries with Particular Attention to Repair of Tendons. J. A. Guthrie, Huntington.—p. 123.
130 Tubal Pregnancy. J. R. Littlefield, Cumberland, Md.—p. 123.
131 Neoplasm of Insula Illustrating Focal Diagnosis. T. A. Williams. —p. 125.
132 Appendicitis as Complication of Pregnancy. A. P. Heineck, Chicago.—p. 127.

Wisconsin Medical Journal, Milwaukee

December, 1917, 16, No. 7

133 Principles and Possibilities in Dietetic Treatment of Diabetes. F. M. Allen, New York.—p. 231.
134 Review of Goiter. H. M. Brown, Milwaukee.—p. 240.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Edinburgh Medical Journal

December, 1917, 19, No. 6

1 New Zealand Scheme for Promoting Health of Women and Children. F. T. King.—p. 350.
2 Treatment and Control of Venereal Diseases. W. Robertson.—p. 360.
3 Movements of Sacro-Iliac Joints; Clinical Study. E. F. Cyriax. —p. 370.
4 Physicians in Jane Austen's Novels. J. B. Adams.—p. 373.
5 Two Cases of Unusual Congenital Abnormalities. D. M. Greig. —p. 383.

Journal of Laryngology, Rhinology and Otology, London

November, 1917, 32, No. 11

6 *Prevalence of Ear Injuries and Diseases in French Army. W. S. Bryant.—p. 338.
7 Morbid Anatomy of War Injuries of Ear. J. S. Fraser.—p. 340. To be continued.

6. Ear Injuries and Diseases in French Army.—Comparing the eye and ear sick, Bryant found more cases of total loss of function among the eye cases than among the ear cases. Further, there is a larger proportion of quickly recovering cases among the eye cases than among the ear cases. Among the ear cases are a larger proportion of cases with a great impairment of function than with the eye. In the zone des Armées at the front, the total sick contains 16 per cent. of ear cases in the evacuation hospitals. These figures are equal, or greater, than figures for eyes. From the evacuation hospitals 4.5 per cent. of ear cases are evacuated to the rear. In the rear of the zone des Armées, in the zone des Etapes, ear cases form 6.25 per cent. of total sick. These figures rise during time of inactivity at the front and fall during military activity. Seven per cent. of these cases are evacuated from the zone des Etapes in the interior. In the interior region ear cases form 9 per cent. of total sick. Bryant estimates that about 80 per cent. of the ear cases will show considerable impairment of function. This impairment will be sufficiently permanent to interfere with the civil occupations of the patients. The nature of the injuries of the ears and their complications fall into three categories: 1. Rupture of the tympanic membranes. 2. Complications of ruptured tympani: (*a*) suppuration of middle ears; (*b*) mastoiditis, mastoid abscess and complications. 3. Commotion of the eighth cranial nerve apparatus. The increase in large guns, shells, mines, bombs, grenades, etc., together with the longer exposure to rapid fire arms, account for the increase of ear injuries among the soldiers of this war.

Journal of Tropical Medicine and Hygiene, London

December 1, 1917, 20, No. 23

8 Unrestricted Test Diet in Tropics. W. E. Masters.—p. 265.
9 Frequency and Dangers of Syphilitic Lesions of Mouth in Arthritic Patients. A. Renault.—p. 267.

Lancet, London

November 24, 1917, 2, No. 4917

10 Colony Treatment and After-Care. G. S. Woodhead and P. C. V. Jones.—p. 779.
11 Value and Limitations of Sanatorium Treatment as Regards Working Classes. W. O. Meek.—p. 785.
12 Conditions of Growth of Bacillus Welchii in Presence of Oxygen. C. G. L. Wolf and J. E. G. Harris.—p. 787.

13 *Treatment of Wounds by Solution of Soap in Casualty Clearing Station. R. G. Dixon and H. T. Bates.—p. 789.
14 Procidentia Recti and Its Treatment. D. Drew.—p. 790.
15 Examinations of Feces of Chinese Laborers. F. B. Bowman and P. D. Saylor.—p. 791.

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16 *Surgical Complications of Typhoid and Paratyphoid. A. E. W. Johnson.—p. 813.
17 *Serum Disease After Intrathecal Injections of Serum. H. D. Rolleston.—p. 821.
18 *Serum Sickness in Cerebrospinal Meningitis. C. B. Ker.—p. 822.
19 Examination of Urine in Cases of Relapsing Fever Occurring in Macedonia. L. S. Dudgeon.—p. 823.
20 Collosal Cocain. G. Barger, H. H. Dale and F. M. Durham.—p. 825.

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21 *Recent Serologic Work on Meningococcus. F. W. Andrewes.—p. 847.
22 Two Cases Illustrating Plastic and Dental Treatment. H. D. Gillies.—p. 850.
23 Treatment of Gunshot Wounds of Mandible and Maxilla. W. K. Fry.—p. 852.
24 *Case of Traumatic Pericarditis Due to Needle. A. J. Hall and J. B. F. Wilson.—p. 856.
25 *Acquired Diaphragmatic Hernia; Report of Case. L. M. Murray and J. D. Morgan.—p. 857.
26 Outbreaks of Plague on S. S. Sardinia and Matiana, 1917. W. M. Willoughby.—p. 867.

13. **Solution of Soap in Treatment of Wounds.**—Dixon and Bates have used this dressing in 368 cases. During the same period they treated similar cases with other antiseptics, including eusol, hydrogen peroxid and bismuth iodoform petrolatum paste, with the result that they are using more soap and less of the other antiseptics. A sample of common yellow soap was analyzed and found to contain, per cent.; water, 24.6; fatty acids, 63; combined alkali, 4.6; free alkali, nil; impurities, 7.8. This was considered suitable, and it was found possible to make a 2.5 per cent. solution of it. Small open muscle wounds in which there was no gas gangrene, after being opened up, and metal and cloth removed, were dressed with sterile gauze soaked in this solution. The dressings were left undisturbed for two, three or four days, provided there was no rise in temperature. At the first dressing the most striking features were less pain, the unusually clean appearance of the wound, absence of pus, and the redness of the whole of the tissues, the muscle in particular. In the same treatment of larger and deeper wounds a 2.5 per cent. solution of the bismuth paste in soft green soap was found to be quite satisfactory. Cases of penetrating wounds of the knee joint were treated by this method, the joints being irrigated and the capsule and external wounds closed. The patients did very well. In cases of gas gangrene the results were usually good. The points claimed for the soap solution dressings are that they clean up a wound quickly, the dressings are much less painful than ordinary dressings, there is a saving of labor, as the dressings need only be changed every three or four days, and the solution is easily procured, easily made and inexpensive.

16. **Surgery in Typhoid and Paratyphoid.**—The most striking point of all Johnson's review is the remarkable difference in severity of disease, incidence of complications and mortality between the inoculated and the noninoculated. In the unprotected the mortality was more than five times as high as in the protected. The specific bacteria are not found in either blood, feces or urine with anything like the same frequency, or in such numbers in the inoculated as in the noninoculated, since the microbes are killed more rapidly and effectually owing to protective substances being in the body ready for the attack. It follows, therefore, that the sequels and after-effects of typhoid and paratyphoid infection must be fewer in the inoculated, and there is also less chance of infected individuals becoming carriers of the bacilli. Therefore, not only is the inoculation of immediate and ultimate benefit to the individual and to the army in largely preventing infection, as shown by the small incidence of cases; in controlling the disease in those who become infected and making the attack milder, complications and sequelae less frequent and mortality much smaller; but it will also be of lasting benefit to the community at home by diminishing the number of men who become carriers.

17. **Serum Disease After Intrathecal Injections of Serum.**—Out of ninety-six bacteriologically proved cases of cerebrospinal fever treated by serums and surviving for ten days or more, fifty-eight, or 60 per cent., had a serum reaction, as judged by the appearance of a rash. Among these fifty-eight cases there were nine, or 15.5 per cent., in which the rash was preceded or accompanied by a more or less definite recrudescence of meningitic manifestations, thus, especially when preceding the rash, suggesting a relapse of the disease. These symptoms are relieved by lumbar puncture, and under the assumption that they point to a relapse, a fresh injection of serum may be given, as was done in six out of the nine cases. The three patients not so injected recovered, and of the six cases injected intrathecally with serum, five were made worse, four eventually proving fatal, though it is not suggested that death was thus induced.

18. **Serum Sickness in Cerebrospinal Meningitis.**—There were sixty cases in Ker's series, but a certain number of these patients died before there was any probability of a reaction occurring. Forty-eight patients, however, lived nine days or over, and thirty-six, or 76 per cent., of these suffered from serum sickness. The reactions were, as a rule, sharp, and in most cases were accompanied by considerable fever. The outstanding feature was, as usual, the rash, which most often started as an urticaria and ran into a multiform erythema. There was much skin irritation, and those patients whose consciousness was not blunted by their original illness were much distressed by the itching. Arthritis was noted in six patients, but was very severe, and may have been present in a milder form in some others. Adenitis of the cervical glands was very well marked in two instances. An interesting point was the occurrence in nine cases of prodromal fever for twelve or twenty-four hours before any other symptoms.

21. **Serologic Work on Meningococcus.**—A working hypothesis based on the present state of our knowledge with regard to the meningococcus, Andrewes says, is as follows: The meningococcus is a single, definite species, recognizable by its cultural characters and fermentative reactions, and widely spread as a pharyngeal saprophyte, often a transitory one. In its most primitive form it is a relatively harmless organism, but even at this stage its protein presents two antigenic components. These two components are rarely evenly balanced, and from a serologic point of view there emerge two primary races of the coccus—Group 1 and Group 2—which correspond to the meningococcus and parameningococcus. The latter term is a misnomer, since both are true meningococci. The term pseudomeningococcus is equally erroneous; so far as it has any meaning it signifies a meningococcus of primitive type and low pathogenic power. Under ordinary circumstances the bulk of the saprophytic meningococci of the pharynx are of this low type and mostly fall under Group 2, though some are indeterminate. Even in nonepidemic times certain strains of these simple cocci possess sufficient virulence to attack the very young; hence we always have with us sporadic cases of cerebrospinal meningitis. For unknown reasons there is a tendency at times for certain strains to increase in virulence, and this is accompanied by an increased complexity in the structure of the antigen, taking different forms in different strains. When cerebrospinal fever attains epidemic prevalence the virulent strains concerned stand out with relative but not absolute distinctness.

24. **Traumatic Pericarditis Due to Needle.**—In this case a needle was driven through the sternum and pericardial inflammation appears to have been set up by the mechanical irritation of the needle point sticking into the sac rather than to any infection, for there was no evidence of wound infection, and the effusion subsided quickly when the needle was removed.

25. **Acquired Diaphragmatic Hernia.**—In the diagnosis of diaphragmatic hernia Murray and Morgan point out that the most important evidence is to be found in: (1) displacement of the heart to the right; this was evident to some degree in all of the cases reviewed; (2) metallic tinkling heard high up in the chest, having relation to the peristaltic movements of the stomach, and not especially corresponding in time to the respiratory movements; (3) tympany of some degree high up

in the left chest; (4) absence over the left chest of the dull note indicating fluid, or of the hyperresonant note of pneumothorax.

Medical Journal of Australia, Sydney

November 17, 1917, 2, No. 20

27 Repair of Skull Defects. R. C. Brown.—p. 409.
28 Disabilities of War. T. F. Brown.—p. 411.
29 Method of Estimating Minute Traces of Calcium. S. Pern.—p. 411.
30 Treatment of Pott's Disease by Autogenous Tibial Bone Grafts. T. Ambrose.—p. 413.

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31 Symptoms, Prophylaxis and Treatment of Toxemia of Pregnancy. J. A. G. Hamilton.—p. 431.
32 Case of Inversion of Uterus—Death. R. A. G. Malcolm.—p. 437.

Archives de Médecine et de Pharmacie Militaires, Paris

April, 1917, 67, No. 4

33 *The Surgical Sector of the Seventh Region. M. Patel.—p. 453.
34 Amputation of the Leg in War. M. Patel.—p. 472.
35 *Work for the Tuberculous. Cantonnet.—p. 480.
36 *Spirocheturia. M. Favre and N. Fiessinger.—p. 494.
37 *Hematoma in the Ear. P. L. Marie.—p. 501.
38 *Evaluation of the Hearing. E. Escat.—p. 506.
39 *The Neuro-Psychiatric Centers. R. Cruchet.—p. 522.
40 *The Genito-Urinary-Dermatologic Centers. O. Pasteau and E. Mallein.—p. 526.
41 Conclusions Adopted by the Interallies Surgical Conference.
42 *Greased Tulle for Dressings. Descour.—p. 552.
43 *Stretcher for Abdominal Wounds. Blondel.—p. 556.
44 Abbreviated Records for Findings in Air Passages. A. Gonthier.—p. 572.
45 Folding Case for Sulphur Sterilization of Clothing. Ollé and G. Daviet.—p. 578.
46 *Suppression of Alcohol in Histologic Technic. H. Couturier.—p. 580.

33. **Surgical Work in One French Sector.**—Patel is chief of the surgical service in a sector including fifty-five base hospitals representing 8,184 beds. The hospitals are classified in three groups, to receive the severely wounded, the mildly wounded and the wounded on the road to healing. He made his rounds to all at least once a month, inspecting, seeking out the wounded men requiring special measures, and attending to their being taken where they can get them. A monthly reunion of the physicians and surgeons of the sector was the rule. An important feature of his service is an "extraction center" for removal of projectiles and other foreign bodies. In 363 cases there was only one failure and one death, both intrapulmonary cases. Experience has demonstrated that nothing short of practical and extensive intervention under anesthesia will cure cases of fistula into bone tissue. A separate center for fractures, where the men could be kept until complete consolidation, he thinks would be an advantage. Cases of vicious callus, deforming the limb, are still too frequent. The cause of this is the passage of the wounded from one surgeon to another, and the leaving on too long the plaster cast applied merely for evacuation purposes.

35. **Occupation in Treatment of the Tuberculous.**—Cantonnet regards work for the tuberculous as a kind of tuberculin therapy—the tuberculin being forced out into the circulation by the physical exertion—and he insists on its being as carefully systematized and the doses regulated as is the rule with tuberculin treatment. The experiences at the Bligny sanatorium in this line since 1904 are summarized, and the advantages of thus gradually preparing the tuberculous for resumption of wage earning are emphasized. At the sanatoriums for tuberculous soldiers, the aim should be to rest the man from the fatigues of yesterday at the front and in self-support since, but without letting him forget the necessities of tomorrow. The ideal is for the man, leaving the hospital sanatorium to find regular assistance provided for his family and suitable occupation for himself.

36. **Spirocheturia.**—Favre and Fiessinger comment on the importance of spirocheturia in the diagnosis of infectious jaundice, and describe the various technics in vogue for detection of the spirochetes. The method they have found best adapted for the purpose is by staining the sediment from contrifuged urine. The sediment spread on the cover glass, after drying, is covered with a solution of 2 c.c. formol with 1 c.c. acetic acid in 100 c.c. water. It is left in contact for two minutes, then washed off with alcohol at 90 degrees and dried by evaporation. It is then treated hot with a 5 per cent. solution of tannin for one minute and then rinsed thoroughly with ordinary water. Then the specimen is treated with an ammoniacal solution of silver nitrate. This is obtained by adding ammonia, a drop at a time, to a 3 per cent. solution of silver nitrate, until the black precipitate has disappeared and slight opalescence is perceptible. Heat a minute. Rinse in ordinary water and dry. The spirochetes show up well by this method. They are smaller and not so regularly spiral as the spirochetes of syphilis. Ordinary staining methods do not show them up at all or only indistinctly.

37. **Hematoma in the Ear.**—Under the heading *Maladies de Captivité* Marie describes ten cases of a hematoma in the external ear, encountered in the course of his ten months in a German prison camp. The hematoma may have been the result of sleeping on a hard surface, but it may have been a manifestation of a tendency to scurvy from the defective diet.

38. **Classification of Deafness for Recruiting Officers.**—Escat advocates classification by six grades of hearing which he describes and tabulates, specifying the fitness for service which each entails.

39. **The Army "Neuropsychiatric Centers."**—Cruchet expatiates on the inestimable service being rendered by the specialist center for nervous and mental disease. He advocates that it should be organized in connection with the genito-urinary center, the two often having to deal with the same subjects. The center should be located at the rail head, the *gare regulatrice*, through which the soldiers have to pass, coming and going.

40. **The Genito-Urinary Center.**—Pasteau has previously published the results of his extensive experience as to what a stable genito-urinary center should be for the army, and he here insists on the necessity for a similar installation as the army moves on. It should be located at the rail head where it can sift out the men with skin disease, syphilitic or urinary disturbances which can be cured in a month or less under proper treatment. These men are thus saved to the army without loss of time. The service further sorts out the men according as they need surgical treatment or a stay at a sanatorium, and evacuates them accordingly. A further advantage of the post being at the rail head is that those liable to spread contagion can thus be detected and detained for treatment. A consulting dispensary is always part of the service. As the army moves on, the dispensary can be handed over to the physicians in the region, and the center itself moves forward with the rail head as it is advanced. The towns with rail head, occupied by the troops, should have at once a subsidiary center organized with consulting dispensaries for men and for women.

42. **Oiled Gauze for Dressings.**—Descour relates that the men who have had their wounds dressed with oiled tulle clamor for it in preference to ordinary gauze, as it does not stick to the tissues. The gauze is impregnated with a mixture of two parts petrolatum to two parts castor oil and one part yellow wax. A little Peruvian balsam in addition perfumes it but does not seem to improve it otherwise.

43. **Stretcher for Abdominal Wound Cases.**—An illustrated description is given of an adjustable stretcher on which the wounded man can be kept in the Fowler semi-sitting position as he passes through various hands to the base hospital.

46. **Suppression of Alcohol in Histologic Research.**—Couturier states that acetone is able to take the place of alcohol in histologic technic in almost all its applications, as he describes in detail.

Bulletin de l'Académie de Médecine, Paris

November 13, 1917, 78, No. 44

47 Substitutes for Wheat. (Comment compenser le déficit actuel de froment panifiable?) A. Gautier.—p. 573.
48 Comparative Morphology of Brain of Monkeys and Man: New Classification Required. R. Anthony.—p. 579.
49 *Autovaccine in Treatment of Cerebral Abscess. Villandre and Rochaix.—p. 580.
50 *Treatment of Contracture after Tetanus. L. Bérard and A. Lumière.—p. 582.

51 Control of the Circulation in Excising an Aneurysm Sac. E. Mériel.—p. 584.

49. Abscess After War Wounds of Skull.—Villandre and Rochaix state that an infectious process had developed in 14 per cent. of 450 skull cases reaching their neurologic center. When there was a fistula, a prompt cure followed surgical measures; in the fourteen abscess cases six of the men died notwithstanding prompt incision and draining. One man required puncture of the brain every four or six days during three months, and finally recovered. The staphylococcus was found in the pus of these deep-seated abscesses, and three of the men were given an autovaccine under which the purulent cavity healed up, although the suppuration recurred once or twice, compelling the making of a new vaccine. The benefit was marked even in the one case that terminated fatally. The recovery of the others shows the efficacy of this autovaccine therapy for deep abscesses in the brain, close to the ventricle.

50. Contracture After Tetanus.—Bérard and Lumière have found regional anesthesia extremely valuable in aiding in correcting the permanent contracture in the injured limb. Contracture is rather common now as a sequel to the tetanus attenuated by serotherapy.

Journal de Médecine de Bordeaux

November, 1917, **88**, No. 12

52 Blunders in Diagnosis of Paralysis after War Wounds. A. Pitres. —p. 239.
53 *Action on the Eye of Asphyxiating Gases. Teulières.—p. 247.
54 Quinin Hemoglobinuria; Two Cases. R. Le Dentu.—p. 253.

53. Action of War Gases on the Eyes.—Teulières remarks that the asphyxiating, toxic or "weeping" gases used early in the war caused intense congestion in their effect on the eyes, and sometimes even considerable reduction in the visual acuity, but the whole was transient. Recently, however, the Germans are using in shells a different gas which has a direct corrosive action. It seems to act only on moist surfaces, and hence men exposed to it should not be washed. A cocain salve or collyrium seems more rational treatment at first, followed by instillation of a medicated salve for a whole week, even in the mild cases. In the grave cases, a hot medicated spray may be used later, alternating with the salve to ward off symblepharon. In the mild cases the action is like that of the old gases, but in the graver cases the lids swell and ulcerate and the conjunctiva looks as if it had been burned with sulphuric acid. The cornea ulcerates, while the iris shows the effect of intense congestion. The fundus of the eye keeps normal, and, as the conjunctiva of the lids escapes, there has been no symblepharon to date. To illustrate the action of the gas on moist surfaces, he mentions that one man who had been sweating profusely, presented the corrosions only in the axillae and along the lines of sweat that had run down the trunk. The rest of the skin was intact.

Paris Médical

November 17, 1917, **7**, No. 46

55 Insincerity in the Wounded. Laignel-Lavastine and P. Courbon. —p. 407.
56 *Reaction of Degeneration in Muscles. Hesnard.—p. 410.
57 *Suprarenal Insufficiency in Cholera and Seasickness. Naamé. —p. 415.
58 Fatal Hemorrhagic Pancreatitis in Two Phases with Three Months' Interval. A. Martin—p. 417.

November 24, **7**, No. 47

59 *Evolution of the Disturbances after Operative Treatment of War Wounds of the Skull. L. MacAuliffe.—p. 421.
60 *Roentgen Treatment of Keloid. E. Albert-Weil.—p. 424.
61 *Detection of Syphilis by Examination of the Mouth. G. Railliet.—p. 427.
62 *Chemical Purification of Drinking Water. G. Denisot.—p. 431.
63 Vanadium Hyperoxid as Tonic for War Fatigue. Le Tanneur. —p. 433.
64 *War Wound of Subclavian Artery. G. Métivet.—p. 433.

56. Reaction of Degeneration in Muscles.—Hesnard calls attention to galvanotonic hyperexcitability as an instructive element in the reaction of degeneration. When the galvanic current is passed lengthwise through the whole length of a normal muscle (bipolar method), the muscle contracts and keeps contracted as long as the current is passing. The current must be one of 30 or 40 milliamperes and the tonic response must always be compared with that on the sound side. With a degenerating muscle the contraction occurs with a much weaker current, 5, 10, 15 or 20 milliamperes. This sign is easy to induce, while it can be regarded, he says, as an important element in the degeneration picture. He shows this by a tabulation of the findings of the reaction of degeneration at different intervals. By the twentieth day this galvanotonic excitability is seen to have a lower threshold, the contraction occurring with a weak current. From the fortieth day to the fourth or eighth month, the other elements of the reaction of degeneration may show no change, but the galvanotonic excitability is dying out. The contraction occurs discontinuously, and it grows less and less until after the eighth month even the strongest currents are unable to elicit any contraction. The article is illustrated.

57. Epinephrin Treatment of Cholera and Seasickness.—Naamé has long insisted that cholera is a syndrome of acute suprarenal insufficiency. This suprarenal deficit is found in different infectious and toxic states but in cholera it reaches its acme. A number of recent writers are cited who have described choleriform attacks in fatal erysipelas, in dysentery, etc., all traced to suprarenal insufficiency, and Sergent reported in 1915 the discovery of lesions in the suprarenals in an epidemic of false cholera finally explained by cadaver contamination of the drinking water. In short, Naamé declares that epinephrin should be given systematically in cholera and other diseases with pure glandular symptomatology.

He also calls attention to the close analogy between the symptoms of seasickness and what we know of suprarenal insufficiency resulting from purely nervous inhibition of suprarenal functioning. The swaying of the ship swings the viscera in an unaccustomed way; as they impinge on the solar plexus they irritate it more or less, and this in turn inhibits normal suprarenal functioning. A belt holds the viscera more firmly in place and hence aids in warding off seasickness. Children are less subject to seasickness. Their organs are small and do not swing around so much, while their abdominal walls are more elastic. This assumption explains why seasickness stops as soon as the foot touches dry land. Sedatives have no influence on seasickness, but he has found epinephrin effectual: 5 or 6 mg. fractioned in three doses at intervals of an hour or half or before meals. He has always been impressed with the tolerance for and the success of epinephrin. The discomfort subsides and the meals can be taken as usual. Car sickness is a form of the same trouble, and yields to a small dose of epinephrin.

59. War Wounds of the Skull.—Mac-Auliffe has had men under observation for two years or more after trephining. First there were torpor and slow pulse, sometimes arrhythmia. Then as the brain functioning was resumed, dissociation was evident, but the reactions indicating inertia predominated. Indications of visual and auditory inhibition persisted for two years or more but gradually the brain regained its usual balance although never on as high a plane as before the wound of the skull. The heart passed through a phase of accelerated rhythm before it settled down at last to a regular beat, and this was always a little slower than normal.

60. Radiotherapy of Keloid.—Weil's experience has been very favorable with roentgen treatment of keloid. Even the most hypertrophied subside under it. If a less protracted cure is advisable, he exposes the keloid to very hard rays as a preliminary to excision. No further exposures are necessary unless the scar is more than linear.

61. The Mouth Stigmata of Syphilis.—Railliet reports that in examining men at the front before antityphoid vaccination he examined the mouth for traces of syphilis, but was unable to apply the Wassermann test. He found thus in 103 men of the same company that over 42 per cent. presented leukoplakia; nearly 37 per cent. had fissures in the tongue, and over 38 per cent. had the supernumerary cusp on the teeth called by dentists Carabelli's tubercle. Glands in the mouth or lips were found hypertrophied only in 14.56 per cent. All but six of the men were between 35 and 46. No connection

between the leukoplakia and smoking could be detected. In forty-eight of the men there was only one of the above lesions, but in twenty-eight they were associated in various combinations.

62. **Purification of Drinking Water.**—Denisot expatiates on the prompt disappearance of germs in water treated with strong oxidizing substances. The procedure he has found most effectual is to combine potassium permanganate and hydrogen dioxid in the water. The consequent reaction is complex, but the result is the precipitation of insoluble manganese oxides while nascent oxygen is liberated in large amounts and acts on the organic matters in the water. An illustration is given of a portable tank. The treated water in the upper part passes through a small tube and filter into the middle part where the oxides drop out and the water is passed on through cotton, and is then ready to use. The three parts of the tank fit into each other for transportation, and a 20 liter supply answers for an ambulance and 250 patients. (The amounts of the chemicals used are not specified.)

64. **Wound of Subclavian Artery.**—The case described shows the tendency to hemorrhage, while the wounded are being carried from the advanced station to the base hospital, when hemostasis is not thoroughly assured. The case further demonstrates the feasibility of even a long and tedious operation on a much weakened man without general or local anesthesia. The small scrap of shell was beyond reach and does not seem to be causing any disturbance. The difficulty of operating in this region compels a special technic which Métivet describes.

Presse Médicale, Paris

November 19, 1917, **25**, No. 64

65 *Suspension and Traction in Treatment of Fractures. J. A. Blake and K. Bulkley.—p. 653.
66 Falling of the Hair in Syphilities. R. Sabouraud.—p. 659.
67 *Acute Congestion of the Liver in Infants. R. Raimondi.—p. 660.
68 Important Share of the Bone Marrow in the Coagulation of the Blood. M. Romme.—p. 681.

65. **Suspension and Traction in Treatment of Fractures.**—This profusely illustrated article by two American Army medical officers in France shows the mechanical principles involved in restoring normal conditions in a fractured limb, and how to apply them in practice.

67. **Acute Congestion of the Liver in Infants.**—Raimondi remarks that acute congestion of the liver is extremely frequent in infants, affecting the "big eaters" and those whose parents had had liver trouble. Too much fat in the food and too much food are generally responsible for it. Children from 1 to 3 years old returning from a stay in the country are particularly liable to it. They have been eating heartily in their outdoor life, and the change to the city environment brings the upset. The congestion of the liver is primary. The temperature rises but there are no stomach symptoms except the small appetite and, exceptionally, the child vomits once or twice. There is no diarrhea. The urine is dark colored and scanty and indican is found in large amounts. There is always some glycuronuria but not much. The liver enlarges and is tender, but there is no jaundice. The disturbances are more pronounced the longer the excessive feeding had been kept up. They last from six to eight days as a rule, but may linger for three weeks or subside earlier under prompt treatment. He gives calomel at night after a bottle of boiled sweetened water. In the morning a teaspoonful of castor oil is followed three hours later with rinsing out the bowel. The latter is repeated daily until the temperature is normal. Baths or wet packs aid in reducing the temperature, and he gives also organ therapy and powders of the bicarbonate, sulphate and benzoate of sodium, with fluid extract of boldo during convalescence. The main thing is prevention, and he makes a point of giving children with inherited liver taint a calomel purge once a month, followed by partial restriction of the diet. Children whose parents have suffered from the liver should never be allowed to eat too much. In the diet, butter and sugar should be kept down to the minimum. The congestion subsides but is liable to return again and again in children with large appetites.

Revue de Chirurgie, Paris

March-April, 1917, **36**, No. 3-4

69 *War Wounds of Arteries in the Legs. P. Mocquot and B. Fey.—p. 241.
70 *Projectile in Wall of Heart. F. Escande and P. Brocq.—p. 268.
71 *Traumatic Monomyoplegia. Mally and Corpechot.—p. 281.
72 *Functional Cure of Hip Joint Disease in Youth. M. Froelich.—p. 307.
73 *First Treatment of War Wounds of Joints. Maisonnet and E. Chauvin.—p. 325.
74 *War Wounds of the Foot and Ankle. E. Quénu.—p. 373. Conclusion.
75 *Needle for Suturing with Wire. A. L. Soresi.—p. 481.

69. **Wounds of Arteries in the Legs.**—Mocquot and Fey analyze sixty-one cases of a wound of a large artery in the leg. Only 44.3 .per cent. recovered without amputation; 32.7 per cent. after amputation, and the others died in equal numbers with and without amputation. The mortality in the amputation cases was thus 23 per cent. These figures show the extreme gravity of injury of the nerve trunks in the legs. The projectile not only injures the artery itself but the tissues around, thus arresting the circulation in the nerve trunk and the anastomoses as well. The ischemia and the infection aggravate each other while the contusion of the muscles favors gas gangrene. The injury of the artery may be masked by the fracture. There was hemorrhage in only four of their cases.

70. **Projectile in the Heart.**—Escande and Brocq describe a case in which a bullet in the wall of the heart seems to cause very slight disturbance. The rhythm seems regular, and except for a shortness of breath on exertion and occasional precordial pains the condition is good. There has been no change for the worse during the twenty-six months to date. In a second case a scrap of shell in the apex causes absolutely no disturbance when the young man is not called on for heavy work. At the time of the wound, nineteen months ago, he repaired on foot the 500 meters to the dressing station. They have compiled a total of 14 cases, including 7 with the projectile in the wall of the heart; in 7 it is in a cavity in the heart. In 5 the tolerance is almost perfect. Dyspnea on exertion was marked at first in all but subsided to mere shortness of breath in 4 cases and disappeared completely in 2 others. Precordial pain was severe in 6 cases but subsided completely in some of them. In 2 others there was merely a dull ache. The presence of the projectile could not be determined by physical examination. Radiography proved especially instructive when the findings were compared with the heart from a cadaver cut open on a plane to correspond, and marked with the radiographic measurements. In the 14 cases operative measures became necessary in 7, with recovery in 4; the others died. One of the other men died before the operation could be attempted. In one case the bullet left the heart and was found in the hypogastric vein and easily removed.

71. **Monomyoplegia After War Wounds.**—Mally and Corpechot have been making a special study of neuromuscular paralysis restricted to a single muscle, of which they describe forty-five cases. If the monomyoplegia persists, surgical intervention can seldom attack the cause. The aim generally has to be restricted to correction by prostheses.

72. **Fate of Hip Joint Disease in Youth.**—Froelich has noted in a number of soldiers that notwithstanding the apparently good functioning of the hip joint it showed signs of some old chronic process in childhood. He traced them back to epiphyseal osteitis or the essential coxa vara or coxa valga of adolescence or else to tuberculous coxalgia without effusion or osteomyelitis inducing hyperostosis, or hypertrophic coxalgia of tuberculous origin. Although these affections were accompanied by partial destruction and some deformity of the bone, they healed in time with complete restoration of function, and presented no grounds for exemption. In a few cases the trouble flared up anew under campaign conditions.

73. **Primary Treatment of Wounds of Joints.**—Maisonnet and Chauvin discuss what should be done when a man with a joint wound has been left lying on the field up to three days. They discuss the different joints in turn, giving the details and outcome in thirty-six of their own cases classified

by joints. All but six left the station in good condition; four in this group required amputation and two died. When a large joint is involved, the man should not be moved. Operative measures taken at once, without transportation, give promising results. Ample drainage and immobilization are indispensable. The technic should aim to explore, drain, remove all sequesters and resect as necessary. This single incision should follow the path of the bullet when possible. The wrist and finger joint cases can be sent to the rear, while hip and knee wounds must be kept and treated at the advanced station. Wounds of the elbow, ankle, and shoulder can be treated in the field hospital with surveillance to watch when a secondary operation may be required.

74. **War Wounds of the Foot and Ankle.**—Quénu concludes his long study of this subject which has been running through several issues of the *Revue*, with a total of over 477 illustrations. When amputation is necessary it must be guided by the extent of the lesions rather than their duration.

75. **Suture Needle for Wire.**—Soresi's needle has no eye, merely a slanting slit near the tip, and the end of the wire is fused into this slit. There is thus no occasion for the wire being doubled back as in the loop necessary when the wire is threaded through the eye of a needle.

Revue Médicale de la Suisse Romande, Geneva

October, 1917, **37**, No. 10

76 *Tests of Functional Capacity of the Liver. P. Gautier.—p. 597.
77 The Phenolsulphonephthalein Test of Kidney Functioning. E. Cottin.—p. 610.
78 *Abderhalden Reactions. Amann.—p. 617.
79 Dislocations of the Wrist with Fracture. C. G. Yersin.—p. 627.
80 *Intermittent Kinking of Ureter in Child. C. Martin-Du Pan.—p. 638.

76. **Tests of Liver Functioning.**—Gautier reviews the various functional tests in vogue, commenting that all have the drawback that the reaction is not on the part of the liver alone. Other organs intervene and obscure the interpretation of the facts observed. This is particularly noticeable with the urine tests. He deems most instructive the study of dissociated retention of bile elements, especially retention of salts which come only from the liver, also the study of glycuronuria. These throw the most light on the functional capacity of the liver, especially when supplemented by exploration of the other functions of the liver. Glycuronuria and Roger's reaction seem to be the only signs of import for the prognosis.

78. **The Defensive Ferments.**—Amann calls attention to the instructive findings with Abderhalden's technic in some cases of disease of the pancreas, liver, suprarenals and dementia praecox. Several of the patients showed the presence of several specific defensive ferments, confirming, he says, the correlation between various organs. He uses only one half of the quantities called for by the original Abderhalden technic, diluting 1 c.c. of blood with inactive serum or other indifferent fluid not inducing hemolysis or inhibiting the ferments.

80. **Intermittent Hydronephrosis.**—In the boy of 9 an operation revealed that the ureter was kinked by a supernumerary artery.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 1, 1917, **38**, No. 87

81 Vaccination against Typhoid Has Passed Tentative Stage. E. Bertarelli.—p. 1161.

Brazil-Medico, Rio de Janeiro

October 20, 1917, **31**, No. 42

82 *Gummas in the Corpora Cavernosa. O. Clark.—p. 355.

82. **Gummas in the Corpora Cavernosa.**—The young man in Clark's case had a history of chronic gonorrhea and the abscesses and the three tumors felt in the corpora cavernosa were assumed to be of gonorrheal origin. The extreme pain on micturition, the seeping of the urine through the fistulas, and the liability to stenosis suggested the necessity for surgical intervention, but closer examination revealed the syphilitic nature of the lesions. No benefit was derived from three 0.75 gm. doses of neosalvarsan and two of calomel. An operation revealed secondary infection of the gummas, and diversion of the urine removed the constant irritation. Resumption of specific treatment then was followed by a complete and rapid cure in less than a month. The syphilis had been contracted thirteen years before and no treatment had ever been taken. At one time he had had an ulcerating serpiginous syphilitic lesion on the arm which finally healed spontaneously but left a scar as if nearly the whole arm had been burned.

La Escuela Medico-Militar, Mexico

September, 1917, **1**, No. 4

83 *Histology of the Cornu Ammonis. I. Ochoterena.—p. 3.
84 *Gastro-Enterostomy in Mexico. J. Martinez y Gonzalez.—p. 9. Conclusion.
85 Traumatic Osteomyelitis. A. E. Vidales.—p. 20.
86 Infectious Diseases in the Light of General Biology. S. Ramos. —p. 22.

83. **Cornu Ammonis.**—Ochoterena gives an illustrated description of his histologic findings. Recent improvement in staining technic has thrown new light on the histology of the horn of Ammon and its vicinity.

84. **Gastro-Enterostomy in Mexico.**—Martinez remarks that he has been able to find records of only one case in which anterior gastro-enterostomy has been applied in Mexico. All the others were by the von Hacker posterior technic. He analyzes the experience of six leading surgeons of Mexico, with illustrations, discussing also the preoperative and postoperative care. In the fifty-one Mexican cases he has compiled, a vicious circle developed in only one case. The young man had lost excessive amounts of blood from a pyloric ulcer, and he died four hours after jejunojejunostomy to correct the vicious circle. All the other patients recovered except a few who have succumbed since to progressive visceral tuberculosis.

Prensa Medica Argentina, Buenos Aires

October 30, 1917, **4**, No. 15

87 *Syphilitic Nephritis. M. del Sel.—p. 191. Conclusion.
88 *Mixed Inguinal Hernia. E. Finochietto and C. M. Squirru.—p. 191.
89 Granulomatosis. P. de Elizalde and J. C. Navarro.—p. 192.
90 *Syphilis as a Factor in Gastric and Duodenal Ulcer. M. R. Castex. —p. 194.

87. **Syphilitic Nephritis.**—Del Sel remarks that the renal epithelium is in danger in every case of recently acquired syphilis, and hence it seems rational to regulate the diet to ward off nephritis as during convalescence from scarlet fever. Nephritis is not so common with syphilis as with scarlet fever, but it occurs often enough to justify reduction of salt and a milk-vegetable diet during the first phase of syphilis. In a case of nephritis in the third stage of syphilis, no benefit followed three weeks of dieting, and after several mercurial injections there was no improvement in the extreme edema and ascites while the dyspnea had slightly increased, but as there was less albumin in the urine, iodid treatment was pushed and in two weeks there were no further signs of dropsy or headache. There were no cardiovascular complications evident in this case. With hypertension or aortitis complicating the nephritis, specific medication may aggravate the symptoms as in a case described. The dyspnea increased and there were symptoms of congestion of the lungs, with blood-stained sputum. Then the mercury and iodid were suspended and under repose, restriction to milk, wet cupping and small venesections, the cardiovascular condition was improved until the man was able to stand cautious resumption of the specific treatment.

88. **Mixed Inguinal Hernia.**—Finochietto describes a variety of hernia with both an intra-inguinal and a retro-inguinal sac. The retro-inguinal sac may develop years after the other.

90. **Syphilis as a Factor in Gastric and Duodenal Ulcer.**—Castex in reviewing the literature on gastric and duodenal ulcer has been astonished to find how little reference is made to syphilis as a causal factor. It has been his experience that syphilis can be incriminated in the majority of cases in Argentina. Surgical treatment is futile in such cases, and even medical-surgical measures give no permanent cure. He reports in detail nine cases from his practice. In one case of tertiary syphilis while specific treatment was under way,

hematemesis compelled gastro-enterostomy; two ulcers were found, one already healing. In the other cases the disturbances returned after gastro-enterostomy for a gastric or duodenal ulcer, and the discovery that the men were in the third stage of syphilis or presented signs of inherited syphilis suggested specific treatment under which the symptoms subsided. Suprarenal insufficiency had to be combated also in one case of the inherited disease. One patient was a woman of 27 who for eight years had had symptoms from the stomach. A gastro-enterostomy then gave relief for a time but the symptoms returned during a pregnancy the next year, and subsided under treatment for inherited syphilis. In a tenth case, the symptoms from a duodenal ulcer in a man of 60 subsided under mercurial treatment but soon returned, and an operation revealed intense and extensive lesions indicating that the gastric ulcer had perforated at some time.

Repertorio de Medicina y Cirugia, Bogota

November, 1917, **9**, No. 2

91 *Dislocation of the Lens. C. J. Lopez.—p. 59.
92 *Ascarides. V. Ribon.—p. 66.
93 Seven Major Operations. Z. C. Duran.—p. 75.
94 Ankylostomiasis in Colombia. C. J. Lezaca.—p. 87.

91. Dislocation of the Lens.—Lopez reports the case of a woman of 55 on whom he operated for dislocation of the lens into the anterior chamber in consequence of a blow on the eye from a branch. Six months later the woman returned with exactly the same accident in the other eye. In one of his other cases of dislocation of the lens, months had elapsed since the accident and there was secondary glaucoma, with loss of vision, and enucleation became necessary at last.

92. Lesions Due to Ascarides.—Ribon describes two cases in which children succumbed to ileus caused by accumulation of ascarides at some point in the bowel. Under castor oil, one of the children passed 300 dead ascarides of exceptional length. Among the mishaps that may be credited to ascarides he cites the predilection of the helminths for the seclusion of a herniated loop of intestine. They induce lesions in the hernia which may entail minute perforations and adhesions.

Semana Medica, Buenos Aires

November 1, 1917, **24**, No. 44

95 Stab Wound of Knee in Child. J. M. Jorge, Jr.—p. 491.
96 The Secondary Rays in Deep Roentgen Treatment. C. Heuser.—p. 494.
97 Experiences with Treatment of Tuberculosis. C. Ferreira.—p. 502.
98 Matter and Life. V. Delfino.—p. 505.

Siglo Medico, Madrid

November 3, 1917, **64**, No. 3334

99 False Interpretation of Wassermann Reaction. J. de Azua.—p. 826.

Russkiy Vrach, Petrograd

1917, **16**, No. 29-32

100 *Palpation of the Vermiform Appendix. I. E. Hagen Torn.—p. 457.
101 *The Problems of the Moment. A. A. Kisel.—p. 465.
102 Pathologic Anatomy of the Gassed. M. M. Tizengauzen.—p. 466.
103 Sanitary Conditions of Russian Soldiers in Enemy Prison Camps. D. P. Nikolsky.—p. 468. To be continued.

100. Palpation of the Appendix.—Hagen Torn comments on the contradictory opinions held by various writers as to the advisability of palpating the appendix and the reliability of the findings. He quotes Edebohls and others and his own experience, comparing the deductions from palpation with the conditions actually found at the operation. Even more instructive were the palpation findings after removal of the appendix, both at the time and months later. The palpation should begin with the outer limits of the iliac fossa and work inward. In the few cases among his 207 in which the findings were misleading, the blunder was explained by extreme atrophy of the appendix or it lay too high for palpation, or a fold in the movable cecum, a deposit of fat in the mesentery or adhesions had been taken for the appendix. Light palpation may sometimes be enough, but usually the appendix has to be pressed against a hard background. It aids if the patient breathes deep and bends the trunk to force the appendix nearer the surface.

If the appendix itself cannot be definitely outlined, the other intestines in the region should be outlined. With acute periappendicitis, palpation in connection with light percussion determines the location, depth and character of the infiltration. It also shows with diffuse infiltration the moment when the appendix can be removed without danger of scattering its contents. With chronic appendicitis, palpation discloses the condition of the walls and cavity, the direction, length and movability of the appendix, and may also reveal concretions. The healthy appendix is harder to palpate than the diseased, and the findings are quite different. A movable appendix is liable to slip in between loops of intestines and thus escape the finger. Some of the cases described in detail emphasize the importance of palpation in warning of the unsuspected gravity of the case, but they also warn that the palpation must be extremely cautious in the acute cases.

101. The Task Before the Medical Profession in Russia.—Kisel pleads that the question of medical education, the training of physicians for the great tasks before them, is the most prominent problem before the medical profession of Russia today.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

October 13, 1917, **2**, No. 15

104 Experimental Research in General. VII. G. van Rijnberk.—p. 1287.
105 *Cancer Mortality and Tuberculosis Mortality in the Netherlands. H. T. Deelman.—p. 1303.
106 *School Hygiene. E. J. Hamburger.—p. 1317.
107 Isolated Paralysis of Suprascapular Nerve. G. C. Bolten.—p. 1329.
108 Adhesions on the Vocal Cords; Two Cases. C. R. J. Verstegh.—p. 1330.

October 20, **2**, No. 16

109 *Experimental Research in General. VIII. G. van Rijnberk.—p. 1383.
110 Erythrophlein: Action on Isolated Heart of Frog. J. B. Polak and A. J. L. Terwen.—p. 1389.
111 *Iodometric Estimation of Hydrochloric Acid in Gastric Juice. M. W. Scheltema.—p. 1405.
112 Roentgen Treatment of Uterine Fibromyomas. N. Voorhoeve.—p. 1407.
113 Thrombosis of Sinus Cavernosus or Orbital Abscess? D. J. de Levie.—p. 1412.

105. Cancer and Tuberculosis Mortality in the Netherlands.—Deelman reviews the statistics for the last thirty years for cancer and tuberculosis, comparing the local incidence of each, with numerous maps. No direct local connection between them could be detected, but the data show that tuberculosis keeps at about the same figure in different localities although the trend is downward. The cancer mortality, on the other hand, varies materially in place and at different periods. This demonstrates, he argues, that if a microorganism is responsible for cancer it stands in a different relation to it than the tubercle bacillus to tuberculosis. With the latter we behold a regular transmission from man to man, hence a certain regularity of incidence in a given place.

106. Hours of School Work.—Hamburger discusses whether the manual training and domestic science work should be done outside of the school hours proper. He bases his conclusions on psychologic tests of the children in different schools. The manual training and domestic science classes do not seem to fatigue the brain.

109. Experimental Research in General.—This is the eighth and concluding portion of van Rijnberk's study of this subject. His arguments as to whether animals feel pain were summarized in these columns, Nov. 24, 1917, p. 1835.

111. Iodin Test for Hydrochloric Acid in Gastric Juice.—Scheltema remarks that the tests in vogue for this purpose allow some guesswork as to the findings. Titration with iodin is simpler and more reliable. When hydriodic acid is added to iodic acid, they act on each other with the result that water and iodin are formed. The equation is $HIO_3 + 5HI = 3H_2O + 3I_2$. This reaction can serve as a sensitive reagent for hydrogen ions. The quantity of iodin separated out can be determined with sodium thiosulphate. To 10 c.c. of filtered gastric juice are added 5 c.c. of a 5 per cent. solution of potassium or sodium iodate, and then a crystal of potassium iodid or sodium iodid. Iodin separates out at once, as is evident from the dark coloration. Then 10 c.c. of a tenth-normal solution of sodium thiosulphate are added, or more,

with a pipet, until the fluid is decolored, growing limpid again. Then a little starch solution is added, and titrated with a tenth-normal solution of iodin until a dark blue color appears.

The quantity of iodin which was released at first, must be equal to the 10 c.c. minus the number of cubic centimeters of the iodin solution required to react with the excess sodium thiosulphate solution. The presence of acid phosphates and organic acids does not interfere with the reaction as they do not act unless in concentrations above what are encountered in the gastric juice. The iodin test here described indicates only the amount of free hydrochloric acid; the bound acid does not seem to share in the reaction. By adding merely a solution of some iodate and a little potassium iodid or sodium iodid to gastric juice, if iodin separates out, we can be confident that there is free hydrochloric acid present.

Svenska Läkaresällskapets Handlingar, Stockholm

September, 1917, **43**, No. 3, Second Half of A. Pettersson Festskrift.

114 *Notification of Tuberculosis. E. Lindhagen.—p. 788.
115 Tabes Followed by Epilepsy. G. S. Lundahl.—p. 828.
116 *Tubercle Bacilli in Sputum. F. Pettersson.—p. 838.
117 Importance of the Center of Gravity for the Erect Posture. T. Resmark.—p. 847.
118 *Arrow Poison from Brazil. C. G. Santesson.—p. 888.
119 *Mycosis of Hands and Feet. J. Strandberg.—p. 913.
120 *Serotherapy in Meningitis. I. Syk.—p. 917.
121 Further Studies of the Innervation of the Abdominal Muscles. G. Söderbergh.—p. 989.
122 Test for Succinic Acid in Muscle, etc. T. Thunberg.—p. 996.
123 Pneumococcus Meningitis; Four Cases. J. Tillgren.—p. 1002.
124 *Lymphogranulomatosis. A. Wallgren and T. J. Hellman.—p. 1015.
125 *Propagation of Pleural Friction Sounds. A. Wallgren.—p. 1049.
126 Improvised Sterilizing Plant for Clothing and Equipment. G. Wirgin and J. Näslund.—p. 1060.
127 *Internal Treatment of Gastric Ulcer with Roentgen "Filling Defect." H. Ohnell.—p. 1076.
128 *The Second Epidemic of Poliomyelitis in Sweden, 1911-1913. W. Wernstedt.—pp. 1097-1408.

114. **Notification of Tuberculosis.**—Lindhagen compares the statistics in regard to tuberculosis mortality in the countries with and without compulsory notification. He advocates it, and presents data and arguments that justify its adoption in Sweden. The general mortality in Swedish cities has dropped from 17.4 to 13.31 per thousand inhabitants since 1891, but the proportion of deaths from tuberculosis has dropped only from 15.6 to 14.1 per cent. In the Danish cities, where notification has been enforced since 1897, the corresponding figures are 19.8 and 13.1, with the tuberculosis percentage 10.6 and 7.8.

116. **Quantitative Determination of Tubercle Bacilli in Sputum.**—Pettersson's method consists essentially in adding to the diluted sputum, cleared of cells, a suspension containing a given number of leukocytes. By comparing the tubercle bacilli with the known numbers of leukocytes, it is easy to estimate the proportional quantities of the bacteria.

118. **Arrow Poison.**—Santesson reports on some arrow poison brought from western Brazil. The poison is of the curare type. The front end of the arrows is wound with thread in order to hold more of the poison. They are used by the Huanyam Indians.

119. **Mycosis of Hands and Feet.**—Strandberg gives a colored plate of the findings in one out of several cases of eczema with abnormal sweat secretion in which he found a fungus in the horny layer of the skin. Treatment with iodin proved effectual.

120. **Serotherapy in Meningitis.**—Syk's experiences in fifty cases are given with ample detail in the seventy-two pages of this work. About ten pages are devoted to personally analyzed bibliography, and nearly five to a summary in German. The variability of meningococci at different seasons, etc., is emphasized, as also the advisability of testing the potency of the antiserum. The most reliable means for this seems to be by titrating out the smallest amount of antimeningococcus serum which induces specific phagocytosis in vitro. This seems to be a safe and uniform guide; it can be supplemented with the fixation of complement test. The antiserums of different makes differ in strength. The single dose must be not less than 20 c.c. and the doses must be repeated daily. In case the diagnosis is dubious, do not hesitate to inject the serum. He regards the intraspinal as the only effectual route. Analysis of 241 cases on record of deaths, notwithstanding antiserum treatment, shows inadequate dosage as responsible or else the physician yielded to the patient's demand to be let alone, or the physician took a hopeless attitude from the start. Five died soon after the injection; five died apparently from anaphylaxis; fifty-five were moribund when the first injection was made. In Syk's own experience, one of the four who died soon after the injection was found to have acute miliary tuberculosis with the acute meningitis. Epinephrin before puncture is a useful precaution if the blood pressure is low. He adds that sudden and unexpected deaths occur in epidemic meningitis even when no antiserum has been given, and hence the antiserum should not be incriminated for every fatality.

124. **Lymphogranulomatosis.**—The boy of 4 had no signs of tuberculosis but bacilli strongly suggesting the tubercle bacillus were found in all the glands involved and in the spleen and liver. A colored plate accompanies the article.

125. **Propagation of Pleural Sounds.**—Wallgren shows by seven examples that the sound of rubbing of the pleural sheets may be transmitted to a distance, for example, to the apex.

127. **Medical Treatment of Gastric Ulcer.**—The roentgen findings over several months are reproduced from six cases of gastric ulcer given systematic internal treatment alone. Each showed the filling defect which is usually regarded as a peremptory indication for operative treatment as indicating deep burrowing of the pathologic lesion, the "niche" of the callous ulcer warning of possible cancer to follow. In four of the cases the filling defect gradually disappeared completely, and in two it has nearly disappeared, along with all the other manifestations from the ulcer. These experiences and analysis of similar cases on record have convinced Ohneli that the visible filling defect may have been a diverticulum of some kind, possibly result of pressure or traction, a *pulsions diverticulum*.

128. **Poliomyelitis in Sweden.**—Pettersson, in whose honor this bulky *Festskrift* is published, conducted extensive research on poliomyelitis during the 1911-1913 epidemic, and with his co-workers proved the existence of healthy carriers and other important epidemiologic data. Wernstedt here gives the minute details of the epidemic and of their research, his report filling over 300 pages with numerous tables, maps and data compiled from a question blank sent to physicians and medical institutions throughout the country. Of the total 6,775 cases, 24.2 per cent. were in patients of 15 or more. The youngest were 5 and 14 days, the oldest 78 and 79 years old. In the overwhelming majority of cases the incubation period was from four to seven days. A tendency to ataxia or spasticity should always suggest possible oncoming poliomyelitis. Sometimes this did not attract attention until another case of frank poliomyelitis developed in the family. He warns that every case of diarrhea, sore throat and bronchitis should be regarded with suspicion when poliomyelitis is prevailing. Pains in the legs and even swelling of joints may be encountered with early poliomyelitis. Polyneuritis generally develops symmetrically, and has a longer course, without acute fever. Meningeal symptoms may accompany the poliomyelitis, but there is no opisthotonus, and poliomyelitis is a summer disease in comparison to epidemic meningitis, which occurs usually in winter. The lumbar puncture fluid is clear with poliomyelitis. In one of the cases the symptoms were mistaken for appendicitis and an operation was done; a few days later the characteristic paralysis of legs and bladder developed. In another case an emergency tracheotomy was done for supposed diphtheria. There were 1,239 deaths among the 6,700 cases. The mortality ranged from 10.3 to 21.4 per cent. in children under 10, jumped to twice this in older children; three times as much in adults under 30, and four times at 50 to 60. In treatment, he emphasizes the necessity for personal supervision and extremely careful nursing of the patient even during the stage of repair. The spread of the disease along the routes of traffic is shown by the maps. The fact that the poliomyelitis virus can continue to live in the rabbit organism, suggests that it may be transmitted by animals besides direct contact from man.